

SEQUENCE LISTING

<110> EXELIXIS, INC.

<120> MAPKs AS MODIFIERS OF THE RAC, AXIN, AND BETA-CATENIN PATHWAYS
AND METHODS OF USE

<130> EX03-089C-PC

<150> US 60/429,061

<151> 2002-11-25

<150> US 60/437,163

<151> 2002-12-30

<160> 40

<170> PatentIn version 3.2

<210> 1

<211> 3855

<212> DNA

<213> Homo sapiens

<400> 1

```

aggtagaaga acggtcaagg ctcaaccggc aaagtcccc tgccatgcct cacaaggttg      60
ccaacaggat atctgacccc aacctgcccc caaggtcgga gtccttcagc attagtggag      120
ttcagcctgc tcgaacaccc cccatgctca gaccagtcca tccccagatc ccacatctgg      180
tagctgtaaa atccccagga cctgccttga cgcctccca gtcagtgcac gagcagccca      240
caaaggcct ctctgggttt caggaggctc tgaacgtgac ctcccaccgc gtggagatgc      300
cacgccagaa ctcatatccc acctcggaat atctctctct cccactcgc attgaaaagt      360
ttgaccgaag ctcttggtta cgacaggaag aagacattcc accaaagggt cctcaaagaa      420
caacttctat atccccagca ttagccagaa agaattctcc tgggaatggt agtgctctgg      480
gaccagact aggatctcaa cccatcagag caagcaaccc tgatctccgg agaactgagc      540
ccatcttga gagccccttg cagaggacca gcagtggcag ttcctccagc tccagcacc      600
ctagctccca gccagctcc caaggaggct cccagcctgg atcacaagca ggatccagt      660
aacgcaccag agttcgagcc aacagtaagt cagaaggatc acctgtgctc cccatgagc      720
ctgcgaagggt gaaaccagaa gaatccaggg acattaccg gccagtcga ccagctagct      780
acaaaaaagc tatagatgag gatctgacgg cattagccaa agaactaaga gaactccgga      840
ttgaagaaac aaaccgcca atgaagaagg tgactgatta ctctctctcc agtgaggagt      900
cagaaagtag cgaggaagag gaggaagatg gagagagcga gacccatgat gggacagtgg      960
ctgtcagcga cataccaga ctgataccaa caggagctcc aggcagcaac gagcagtaca     1020
atgtgggaat ggtggggacg catgggctgg agacctctca tgcggacagt ttcagcggca     1080
gtatttcaag agaaggaacc ttgatgatta gagagacgtc tggagagaag aagcgatctg     1140

```

gccacagtga cagcaatggc ttgctggcc acatcaacct ccctgacctg gtgcagcaga 1200
 gccattctcc agctggaacc ccgactgagg gactggggcg cgtctcaacc cattcccagg 1260
 agatggactc tgggactgaa tatggcatgg ggagcagcac caaagcctcc ttcacccct 1320
 ttgtggaccc cagagtatac cagacgtctc ccactgatga agatgaagag gatgaggaat 1380
 catcagccgc agctctgttt actagcgaac ttcttaggca agaacaggcc aaactcaatg 1440
 aagcaagaaa gatttcggtg gtaaatgtaa acccaaccaa cattcggcct catagcgaca 1500
 caccagaaat cagaaaatac aagaaacgat tcaactcaga aatactttgt gcagctctgt 1560
 ggggtgtaaa ccttctgggtg gggactgaaa atggcctgat gcttttggac cgaagtgggc 1620
 aaggcaagt ctataatctg atcaaccgga ggcgatttca gcagatggat gtgctagagg 1680
 gactgaatgt ccttgtgaca atttcaggaa agaagaataa gctacgagtt tactatcttt 1740
 catggttaag aaacagaata ctacataatg acccagaagt agaaaagaaa caaggctgga 1800
 tcaactgttg ggacttgga ggctgtatac attataaagt tgtaaataat gaaaggatca 1860
 aatttttgggt gattgcctta aagaatgctg tggaaatata tgcttgggct cctaaaccgt 1920
 atcataaatt catggcattht aagtcttttg cagatctcca gcacaagcct ctgctagtgt 1980
 atctcacggt agaagaaggt caaagattaa aggttattht tggttcacac actggtttcc 2040
 atgtaattga tgttgattca ggaaactctt atgatatcta cataccatct catattcagg 2100
 gcaatatcac tctcatgct attgtcatct tgcctaaaac agatggaatg gaaatgcttg 2160
 ttgctatga ggatgagggg gtgtatgtaa acacctatgg ccggataact aaggatgtgg 2220
 tgctccaatg gggagaaatg cccacgtctg tggcctacat tcattccaat cagataatgg 2280
 gctggggcga gaaagctatt gagatccggt cagtggaaac aggacatttg gatggagtat 2340
 ttatgcataa gcgagctcaa aggttaaagt ttctatgtga aagaaatgat aaggattht 2400
 ttgcatccgt gcgatctgga ggaagtagcc aagtgttht catgaccctc aacagaaatt 2460
 ccatgatgaa ctggtaacag aagagcactt ggcacttatc ttcatggcgt tatttctaatt 2520
 ttaaaagaac ataactcatg tggacttatg ccagtctaga ggcagaatca gaaggcttg 2580
 ttgaacatat cgctttccct ttttctctc cctccgccc tccagtaga gtccatcttt 2640
 caatgttgca gcctgggtga gaaggagaga aaaagggtggc aggaattthc aggagatccc 2700
 caagaatgct gccttgtctg tggacaaaga tggaccatgt gcccttcgga attagggata 2760
 gaaacaaata ttgtgtgctc ttaacgatta agctgtgtta tgggtgggtt tcaggtht 2820
 accttht tttacccctt tactctgcaa gaatggggaa agaatgcata ctgcgaaat 2880
 gagtcttht aattctgtct gcctactagt ttttaagtata tggtatgttg taaaattthc 2940
 aatgatgaga gacagcaca taaatgtacc ttatctcctt aggtgaagg ccataactac 3000

atagtggagt aatttaagaa ctctcttgcc ttcaccaacc caaaagggtg ctttttgata 3060
 gcaactggct aatgaatddd taaaaagaga agaaaaatac tagttttccc ctcttttggg 3120
 aaatagattd taaatggcta aactactagc cttaaaacta ctagtctaataaaaatcaact 3180
 accacttttg tgaatctgac aggccacatt tttatatggc cctttacaga atggagtggtg 3240
 ttgaacagga tactaacgcc attgagttga gctggcctag cgatggaggg acactctaac 3300
 acaactttcc ctgagctatt atgcaacaga tcagggaaaa agatgggatg acagatgggg 3360
 tcagacagaa agagcttctg ggaaacaagc ttacatagtc ttttttaaaa tgcacaaagc 3420
 ctcccagcta agaggctcact tggtttgggc ttcattagga ctgagacttt gttgagttct 3480
 ttctgggact tggagagtggt atgatattca ggctctgaac attcccagcg ctctcccag 3540
 ggtgccactt tctcaagatg aaaactgtga ctgaaaaaat taataataaaa tgtttctgag 3600
 ctgctgtgt tctccctgtg tgggtgagag aagggactag actcctaagc ctgctcaga 3660
 tacaagaggc atcattggct ccaattttag agaacttgaa agcaaggctt tggacaaaat 3720
 tttgagaccc taatcacttt accttctcc aaattacca acatacggta aacaacattd 3780
 gtgcagaagt atgtatgtat ttagttcagg ttgacttggt tccttataaaa ctcttactca 3840
 aatgatttga acttd 3855

<210> 2

<211> 5727

<212> DNA

<213> Homo sapiens

<400> 2

cgcccttagc cgatcggggc gctcagccca cagcaccgc tgcctggggc ttggagatcc 60
 gcgcaggctg ggctcccga cgcgccggac cgacgcgcgg aggatcggga tccggcgctg 120
 tggggctggg gtgggcgggg gaggtgggc ccggggcctc tggcgcgaca cccgcatgag 180
 gacgcgagtg aaatagacca aggtggaatt tccaaggaa aagcttcggg gtggtttttg 240
 tccatttctc cagcgaagaa gtagacatgg cgagcgactc cccggctcga agcctggatg 300
 aaatagatct ctcggtctg agggaccctg cagggatctt tgaattgggt gaacttggtg 360
 gaaatggaac atacgggcaa gtttataagg gtcgtcatgt caaacgggc cagcttgag 420
 ccatcaaggt tatggatgtc acaggggatg aagaggaaga aatcaaaca gaaattaaca 480
 tgttgaagaa atattctcat caccggaata ttgctacata ctatgggtgt tttatcaaaa 540
 agaaccacc aggcattgat gaccaacttd gggtgggtgat ggagttttgt ggtgctggct 600
 ctgtcaccga cctgatcaag aacacaaaag gtaacacgtt gaaagaggag tggattgcat 660
 acatctgcag ggaaatctta cgggggctga gtcacctgca ccagcataaa gtgattcatc 720

gagatattaa agggcaaaat gtcttgctga ctgaaaatgc agaagttaa ctagtggact 780
 ttggagtcag tgctcagctt gatcgaacag tgggcaggag gaatactttc attggaactc 840
 cctactggat ggcaccagaa gttattgcct gtgatgaaaa cccagatgcc acatatgatt 900
 tcaagagtga cttgtggtct ttgggtatca ccgccattga aatggcagaa ggtgctcccc 960
 ctctctgtga catgcacccc atgagagctc tcttctcat ccccggaat ccagcgctc 1020
 ggctgaagtc taagaagtgg tcaaaaaaat tccagtcatt tattgagagc tgcttggtaa 1080
 agaatcacag ccagcgacca gcaacagAAC aattgatgaa gcatccattt atacgagacc 1140
 aacctaata ggcacaggtc cgcattcaac tcaaggacca tattgataga acaaagaaga 1200
 agcgaggaga aaaagatgag acagagtatg agtacagtgg aagtgaggaa gaagaggagg 1260
 agaatgactc aggagagccc agctccatcc tgaatctgcc aggggagtcg acgctgcgga 1320
 gggactttct gaggtgcag ctggccaaca aggagcgctc tgaggcccta cggaggcagc 1380
 agctggagca gcagcagcgg gagaatgagg agcacaagcg gcagctgctg gccgagcgtc 1440
 agaagcgcag cgaggagcag aaagagcaga gggggcggtt ggaggagcaa caaaggcgag 1500
 agaaggagct gcggaagcag caggagaggg agcagcgccg gcactatgag gagcagatgc 1560
 gccgggagga ggagaggagg cgtgcggagc atgaacagga atacatcagg cgacagttag 1620
 aggaggagca gagacagtta gagatcttgc agcagcagct actgcatgaa caagctctac 1680
 ttctggaata taagcgcaaa caattggaag aacagagaca agcagaaaga ctgcagaggc 1740
 agctaaagca agaaagagac tacttagttt cccttcagca tcagcggcag gagcagaggc 1800
 ctgtggagaa gaagccactg taccattaca aagaaggaat gaggcctagt gagaagccag 1860
 catgggcca gagggtagaa gaacgggtcaa ggctcaaccg gcaaagttcc cctgccatgc 1920
 ctcaaacagg tgccaacagg atatctgacc ccaacctgcc cccaaggctg gaggccttca 1980
 gcattagtgg agttcagcct gctcgaacac ccccatgct cagaccagtc gatccccaga 2040
 tcccacatct ggtagctgta aaatcccagg gacctgcctt gaccgcctcc cagtcagtgc 2100
 acgagcagcc cacaagggtc ctctctgggt ttcaggaggc tctgaacgtg acctcccacc 2160
 gcgtggagat gccacgccag aactcagatc ccacctcgga aaatcctcct ctccccactc 2220
 gcattgaaaa gtttgaccga agctcttggt tacgacagga agaagacatt ccaccaagg 2280
 tgctcaaag aacaacttct atatccccag cattagccag aaagaattct cctgggaatg 2340
 gtagtgctct gggaccaga ctaggatctc aacctatcag agcaagcaac cctgatctcc 2400
 ggagaactga gcccatcttg gagagcccct tgcaaggagc cagcagtggc agttcctcca 2460
 gctccagcac ccctagctcc cagcccagct cccaaggagg ctcccagcct ggatcacaag 2520
 caggatccag tgaacgcacc agagttcgag ccaacagtaa gtcagaagga tcacctgtgc 2580

ttcccatga gcctgccaaag gtgaaaccag aagaatccag ggacattacc cggcccagtc	2640
gaccagctag ctacaaaaaa gctatagatg aggatctgac ggcattagcc aaagaactaa	2700
gagaactccg gattgaagaa acaaaccgcc caatgaagaa ggtgactgat tactcctcct	2760
ccagtgagga gtcagaaagt agcgaggaag aggaggaaga tggagagagc gagacccatg	2820
atgggacagt ggctgtcagc gacataccca gactgatacc aacaggagct ccaggcagca	2880
acgagcagta caatgtggga atgggtggga cgcattgggt ggagacctct catgctgaca	2940
gtttcagcgg cagtatttca agagaaggaa ctttgatgat tagagagacg tctggagaga	3000
agaagcgatc tggccacagt gacagcaatg gctttgctgg ccacatcaac ctccctgacc	3060
tgggtgcagca gagccattct ccagctggaa ccccgactga gggactgggg cgcgctctca	3120
cccattccca ggagatggac tctgggactg aatatggcat ggggagcagc accaaagcct	3180
ccttcacccc ctttgtggac ccagagtat accagacgtc tcccactgat gaagatgaag	3240
aggatgagga atcatcagcc gcagctctgt ttactagcga acttcttagg caagaacagg	3300
ccaaactcaa tgaagcaaga aagatttcgg tggtaaagt aaaccaacc aacattcggc	3360
ctcatagcga cacaccagaa atcagaaaat acaagaaacg attcaactca gaaatacttt	3420
gtgcagctct gtggggtgta aaccttctgg tggggactga aaatggcctg atgcttttgg	3480
accgaagtgg gcaaggcaaa gtctataatc tgatcaaccg gaggcgattt cagcagatgg	3540
atgtgctaga gggactgaat gtccttgtga caatttcagg aaagaagaat aagctacgag	3600
tttactatct ttcattggtta agaaacagaa tactacataa tgaccagaa gtagaaaaga	3660
aacaaggctg gatcactggt ggggacttgg aaggctgtat acattataaa gttgttaaat	3720
atgaaaggat caaatttttg gtgattgcct taaagaatgc tgtggaaata tatgcttggg	3780
ctcctaacc gtatcataaa ttcattggcat ttaagtcttt tgcagatctc cagcacaagc	3840
ctctgctagt tgatctcacg gtagaagaag gtcaaagatt aaaggttatt tttggttcac	3900
acactggttt ccatgtaatt gatgttgatt caggaaactc ttatgatatc tacataccat	3960
ctcatattca gggcaatata actcctcatg ctattgtcat cttgcctaaa acagatggaa	4020
tggaaatgct tgtttgctat gaggatgagg ggggtgatgt aaacacctat ggccggataa	4080
ctaaggatgt ggtgctccaa tggggagaaa tgcccacgtc tgtggcctac attcattcca	4140
atcagataat gggctggggc gagaaagcta ttgagatccg gtcagtggaa acaggacatt	4200
tggatggagt atttatgcat aagcgagctc aaaggttaaa gtttctatgt gaaagaaatg	4260
ataaggatatt ttttgcattc gtgcgatctg gaggaagtag ccaagtgttt ttcattgccc	4320
tcaacagaaa ttccatgatg aactggtaac agaagagcac ttggcactta tcttcattggc	4380
gttattttcta atttaaaaga acataactca tgtggactta tgccagtcta gaggcagaat	4440

cagaaggctt ggttgaacat atcgctttcc ctttttcttc tccctccgcc cctcccagta 4500
 cagtccatct ttcaatgttg cagcctgggtt gagaaggaga gaaaaagggtg gcaggaattt 4560
 ccaggagatc cccaagaatg ctgccttgtc tgtggacaaa gatggaccat gtgcccttcg 4620
 gaattagggg tagaaacaaa tattgtgtgc tcttaacgat taagctgtgt tatggtggtt 4680
 tttcagggtt ttaccttttt tctttacccc tttactctgc aagaatgggg aaagaatgca 4740
 tactgcgaaa atgagtcttt taaattctgt ctgcctacta gttttaagta tatggtatgt 4800
 tgtaaaattt ccaatgatga gagacagcac aataaatgta ccttatctcc ttaggctgaa 4860
 ggccataact acatagtgga gtaatttaag aactctcttg ccttcaccaa cccaaaagggt 4920
 tgctttttga tagcaactgg ctaatgaatt tttaaaaaga gaagaaaaat actagttttc 4980
 ccctcttttg ggaaatagat tttaaatggc taaactacta gccttaaaac tactagtcta 5040
 ataaaatcaa ctaccacttt tgtgaatctg acaggccaca tttttatatg gccctttaca 5100
 gaatggagtg tgttgaacag gatactaacg ccattgagtt gagctggcct agcgatggag 5160
 ggacactcta acacaacttt ccctcagcta ttatgcaaca gatcagggaa aaagatggga 5220
 tgacagatgg ggtcagacag aaagagcttc tgggaaacaa gcttacatag tcttttttaa 5280
 aatgcacaaa gcctcccagc taagagggtca cttggtttgg gcttcattag gactgagact 5340
 ttgttgagtt ctttctggga cttggagagt ggatgatatt caggctctga acattcccag 5400
 cgctctcccg aggggtgccac tttctcaaga tgaaaactgt gactgaaaaa attaataata 5460
 aatgtttctg agctgcctgt gttctccctg tgtgggtgag agaagggact agactcctaa 5520
 gcctgcctca gatacaagag gcatcattgg ctccaatttt agagaacttg aaagcaaggc 5580
 tttggacaaa attttgagac cctaatactt ttaccttctt ccaaattacc caacatacgg 5640
 taaacaacat ttgtgcagaa gtatgtatgt atttagttca gggtgacttg tgctcctata 5700
 aactcttact caaatgatgt gaacttt 5727

<210> 3

<211> 1084

<212> DNA

<213> Homo sapiens

<400> 3

tcacatctgt gcctaaggct cctattgaca aggactctct gcattaggta gtaaataact 60
 agatgtatga atgctgctaa ctttataaaa gaaaactgta atttcattac cagaagtaca 120
 atgatttaat tattatgtca gagcttctac attcattagt ttatatttac ctacttgccc 180
 attagtgtat atttacaagt cacagtttct taaattttat agggactctc gatgcagaag 240
 attaaagttc atgaaaagtc agtcttaggg tgcttcttaa atttacaggt gtaaaccttc 300
 tgggtggggac tgaaaatggc ctgatgcttt tggaccgaag tgggcaaggc aaagtctata 360

atctgatcaa ccggaggcga tttcagcaga tggatgtgct agagggactg aatgtccttg 420
 tgacaatttc aggaaagaag aataagctac gagtttacta tctttcatgg ttaagaaaca 480
 gaatactaca taatgaccca gaagtagaaa agaaacaagg ctggatcact gttggggact 540
 tgggaaggctg tatacattat aaagttgtta aatatgaaag gatcaaattt ttgggtgattg 600
 ccttaaagaa tgctgtggaa atatatgctt gggctcctaa accgtatcat aaattcatgg 660
 catttaagtc ttttgcagat ctccagcaca agcctctgct agttgatctc acggtagaag 720
 aagggtcaaag attaaagggtt atttttgggtt cacacactgg tttccatgta attgatgttg 780
 attcaggaaa ctcttatgat atctacatac catctcatat tcagggcaat atcactcctc 840
 atgctattgt catcttgctt aaaacagatg gaatggaaat gcttgtttgc tatgaggatg 900
 aggggggtgta tgtaaacacc tatggccgga taactaagga tgtggtgctc caatggggag 960
 aaatgcccac gtctgtgggt aggttaacca ttccttatct ccttcagcag ttacaccccc 1020
 caaatgaaac gaaaatcaag aaatgtgaaa caaccatttg attccacaaa aaaaaaaaaa 1080
 aaaa 1084

<210> 4

<211> 3918

<212> DNA

<213> Homo sapiens

<400> 4

atggcgagcg actccccggc tcgaagcctg gatgaaatag atctctcggc tctgagggac 60
 cctgcagggga tctttgaatt ggtggaactt gttggaaatg gaacatacgg gcaagtttat 120
 aagggtcgtc atgtcaaaac gggccagctt gcagccatca aggttatgga tgtcacaggg 180
 gatgaagagg aagaaatcaa acaagaaatt aacatgttga agaaatattc tcatcaccgg 240
 aatattgcta catactatgg tgcttttatc aaaaagaacc caccaggcat ggatgaccaa 300
 ctttggttgg tgatggagtt ttgtggtgct ggctctgtca ccgacctgat caagaacaca 360
 aaaggtaaca cgttgaaaga ggagtggatt gcatacatct gcaggggaaat cttacggggg 420
 ctgagtcacc tgcaccagca taaagtgatt catcgagata ttaaagggca aaatgtcttg 480
 ctgactgaaa atgcagaagt taaactagtg gactttggag tcagtgtctc gcttgatcga 540
 acagtgggca ggaggaatac tttcattgga actccctact ggatggcacc agaagttatt 600
 gcctgtgatg aaaaccaga tgccacatat gatttcaaga gtgacttgtg gtctttgggt 660
 atcaccgcca ttgaaatggc agaagggtgt cccctctctt gtgacatgca ccccatgaga 720
 gctctcttcc tcatcccccg gaatccagcg cctcgggtga agtctaagaa gtgggtcaaaa 780
 aaattccagt catttattga gagctgcttg gtaaagaatc acagccagcg accagcaaca 840

gaacaattga tgaagcatcc atttatacga gaccaaccta atgagcgaca ggtccgcatt 900
 caactcaagg accatattga tagaacaag aagaagcgag gagaaaaaga tgagacagag 960
 tatgagtaca gtggaagtga ggaagaagag gaggagaatg actcaggaga gccagctcc 1020
 atcctgaatc tgccagggga gtcgacgctg cggagggact ttctgaggct gcagctggcc 1080
 aacaaggagc gttctgaggc cctacggagg cagcagctgg agcagcagca gcgggagaat 1140
 gaggagcaca agcggcagct gctggccgag cgtcagaagc gcacgagga gcagaaagag 1200
 cagaggcggc ggctggagga gcaacaaagg cgagagaagg agctgcggaa gcagcaggag 1260
 agggagcagc gccggcacta tgaggagcag atgcgccggg aggaggagag gaggcgtgcy 1320
 gagcatgaac aggaatacat caggcgacag ttagaggagg agcagagaca gttagagatc 1380
 ttgcagcagc agctactgca tgaacaagct ctacttctgg aatataagcg caaacaattg 1440
 gaagaacaga gacaagcaga aagactgcag aggcagctaa agcaagaaag agactactta 1500
 gttcccttc agcatcagcg gcaggagcag aggcctgtgg agaagaagcc actgtacat 1560
 tacaagaag gaatgagtc tagtgagaag ccagcatggg ccaaggagat cccacatctg 1620
 gtagctgtaa aatcccaggg acctgccttg accgcctccc agtcagtga cgagcagccc 1680
 acaaagggc tctctgggtt tcaggaggct ctgaacgtga cctcccaccg cgtggagatg 1740
 ccacgccaga actcagatcc cacctcgga aatcctctc tcccactcg cattgaaaag 1800
 tttgaccga gctcttggtt acgacaggaa gaagacattc caccaaaggt gcctcaaaga 1860
 acaacttcta tatccccagc attagccaga aagaattctc ctgggaatgg tagtgctctg 1920
 ggaccagac taggatctca acccatcaga gcaagcaacc ctgatctccg gagaactgag 1980
 cccatcttgg agagcccctt gcagaggacc agcagtggca gttcctccag ctccagcacc 2040
 cctagctccc agcccagctc ccaaggaggc tcccagcctg gatcacaagc aggatccagt 2100
 gaacgcacca gagttcgagc caacagtaag tcagaaggat cacctgtgct tccccatgag 2160
 cctgccaagg tgaaaccaga agaattcagg gacattaccg ggcccagtcg accagctagc 2220
 taaaaaaaag ctatagatga ggatctgacg gcattagcca aagaactaag agaactccgg 2280
 attgaagaaa caaaccgccc aatgaagaag gtgactgatt actcctctc cagtgaggag 2340
 tcagaaagta gcgaggaaga ggaggaagat ggagagagcg agaccatga tgggacagtg 2400
 gctgtcagcg acataccag actgatacca acaggagctc caggcagcaa cgagcagtac 2460
 aatgtgggaa tgggtggggac gcattgggctg gagacctctc atgcggacag ttccagcggc 2520
 agtatttcaa gagaaggaa cttgatgatt agagagacgt ctggagagaa gaagcgatct 2580
 ggccacagtg acagcaatgg ctttgctggc cacatcaacc tccctgacct ggtgcagcag 2640
 agccattctc cagctggaac cccgactgag ggactggggc gcgtctcaac ccattcccag 2700

gagatggact ctgggactga atatggcatg gggagcagca ccaaagcctc cttcaccccc 2760
 tttgtggacc ccagagtata ccagacgtct cccactgatg aagatgaaga ggatgaggaa 2820
 tcatcagccg cagctctgtt tactagcgaa cttcttaggc aagaacaggc caaactcaat 2880
 gaagcaagaa agatttcggg ggtaaatgta aaccaacca acattcggcc tcatagcgac 2940
 acaccagaaa tcagaaaata caagaaacga ttcaactcag aaatactttg tgcagctctg 3000
 tggggtgtaa accttctggg ggggactgaa aatggcctga tgcttttgga ccgaagtggg 3060
 caaggcaaag tctataatct gatcaaccgg aggcgatttc agcagatgga tgtgctagag 3120
 ggactgaatg tccttgtgac aatttcagga aagaagaata agctacgagt ttactatctt 3180
 tcatgggttaa gaaacagaat actacataat gaccagaaag tagaaaagaa acaaggctgg 3240
 atcactgttg gggacttgga aggctgtata cattataaag ttgttaaata tgaaaggatc 3300
 aaatTTTTTg tgattgcctt aaagaatgct gtggaaatat atgcttgggc tcctaaaccg 3360
 tatcataaat tcatggcatt taagtctttt gcagatctcc agcacaagcc tctgctagtt 3420
 gatctcacgg tagaagaagg tcaaagatta aaggttattt ttggttcaca cactggtttc 3480
 catgtaattg atgttgattc aggaaactct tatgatattc acataccatc tcatattcag 3540
 ggcaatatca ctctcatgc tattgtcatc ttgcctaaaa cagatggaat ggaaatgctt 3600
 gtttgcattg aggatgaggg ggtgtatgta aacacctatg gccggataac taaggatgtg 3660
 gtgctccaat ggggagaaat gccacgtct gtggcctaca ttcatccaa tcagataatg 3720
 ggctggggcg agaaagctat tgagatccgg tcagtggaaa caggacattt ggatggagta 3780
 tttatgcata agcgagctca aaggttaaag tttctatgtg aaagaaatga taaggatttt 3840
 tttgcatccg tgcgatctgg aggaagtagc caagtgtttt tcatgaccct caacagaaat 3900
 tccatgatga actggtaa 3918

<210> 5

<211> 3831

<212> DNA

<213> Homo sapiens

<400> 5

atggcgagcg actccccggc tcgaagcctg gatgaaatag atctctcggc tctgaggagc 60
 cctgcaggga tctttgaatt ggtggaactt gttggaaatg gaacatacgg gcaagtttat 120
 aagggtcgtc atgtcaaaac gggccagctt gcagccatca aggttatgga tgtcacaggg 180
 gatgaagagg aagaaatcaa acaagaaatt aacatgttga agaaatattc tcatcaccgg 240
 aatattgcta catactatgg tgcttttatc aaaaagaacc caccaggcat ggatgaccaa 300
 ctttggttg tgatggagtt ttgtggtgct ggctctgtca ccgacctgat caagaacaca 360
 aaaggttaaca cgttgaaaga ggagtggatt gcatacatct gcagggaaat cttacggggg 420

ctgagtcacc tgcaccagca taaagtgatt catcgagata ttaaagggca aaatgtcttg	480
ctgactgaaa atgcagaagt taaactagtg gactttggag tcagtgtctca gcttgatcga	540
acagtgggca ggaggaatac tttcattgga actccctact ggatggcacc agaagttatt	600
gcctgtgatg aaaaccaga tgccacatat gatttcaaga gtgacttgtg gtctttgggt	660
atcaccgcca ttgaaatggc agaaggtgct cccctctct gtgacatgca ccccatgaga	720
gctctcttcc tcatcccccg gaatccagcg cctcggctga agtctaagaa gtgggtcaaaa	780
aaattccagt cattttattga gagctgcttg gtaaagaatc acagccagcg accagcaaca	840
gaacaattga tgaagcatcc atttatacga gaccaaccta atgagcgaca ggtccgcatt	900
caactcaagg accatattga tagaacaag aagaagcgag gagaaaaaga tgagacagag	960
tatgagtaca gtggaagtga ggaagaagag gaggagaatg actcaggaga gccagctcc	1020
atcctgaatc tgccagggga gtcgacgctg cggagggact ttctgaggct gcagctggcc	1080
aacaaggagc gttctgaggc cctacggagg cagcagctgg agcagcagca gcgggagaat	1140
gaggagcaca agcggcagct gctggccgag cgtcagaagc gcatcgagga gcagaaagag	1200
cagaggcggc ggctggagga gcaacaaagg cgagagaagg agctgcggaa gcagcaggag	1260
agggagcagc gccggcacta tgaggagcag atgcgccggg aggaggagag gaggcgtgcg	1320
gagcatgaac aggaatataa gcgcaacaa ttggaagaac agagacaagc agaaagactg	1380
cagaggcagc taaagcaaga aagagactac ttagtttccc ttcagcatca gcggcaggag	1440
cagaggcctg tggagaagaa gccactgtac cattacaaag aaggaaatgag tcctagttag	1500
aagccagcat gggccaagga gateccacat ctggtagctg taaaatccca gggacctgcc	1560
ttgaccgcct cccagtcagt gcacgagcag cccacaaagg gcctctctgg gtttcaggag	1620
gctctgaacg tgacctccca ccgcgtggag atgccacgcc agaactcaga tcccacctcg	1680
gaaaatcctc ctctccccac tcgcattgaa aagtttgacc gaagctcttg gttacgacag	1740
gaagaagaca ttccaccaa ggtgcctcaa agaacaactt ctatatcccc agcattagcc	1800
agaaagaatt ctctgggaa tggtagtgtc ctgggaccca gactaggatc tcaaccatc	1860
agagcaagca accctgatct ccggagaact gagcccatct tggagagccc cttgcagagg	1920
accagcagtg gcagttcctc cagctccagc acccctagct cccagcccag ctcccaagga	1980
ggctcccagc ctggatcaca agcaggatcc agtgaacgca ccagagttcg agccaacagt	2040
aagtcagaag gatcacctgt gcttccccat gagcctgcc aagtgaaacc agaagaatcc	2100
agggacatta cccggcccag tcgaccagct agctacaaaa aagctataga tgaggatctg	2160
acggcattag ccaaagaact aagagaactc cggattgaag aaacaaaccg cccaatgaag	2220
aaggtgactg attactcctc ctccagttag gagtcagaaa gtagcgagga agaggaggaa	2280

gatggagaga gcgagacca tgatgggaca gtggctgtca gcgacatacc cagactgata 2340
ccaacaggag ctccaggcag caacgagcag tacaatgtgg gaatgggtggg gacgcatggg 2400
ctggagacct ctcatgcgga cagtttcagc ggaggtatct caagagaagg aaccttgatg 2460
attagagaga cgtctggaga gaagaagcga tctggccaca gtgacagcaa tggctttgct 2520
ggccacatca acctccctga cctgggtgcag cagagccatt ctccagctgg aaccccgact 2580
gagggactgg ggcgcgcttc aacccattcc caggagatgg actctgggac tgaatatggc 2640
atggggagca gcaccaaagc ctcttcacc ccctttgtgg accccagagt ataccagacg 2700
tctcccactg atgaagatga agaggatgag gaatcatcag ccgagctctt gtttactagc 2760
gaactttctta ggcaagaaca ggccaaactc aatgaagcaa gaaagatttc ggtgggtaaat 2820
gtaaacccaa ccaacattcg gcctcatagc gacacaccag aaatcagaaa atacaagaaa 2880
cgattcaact cagaaatact ttgtgcagct ctgtgggggtg taaaccttct ggtggggact 2940
gaaaatggcc tgatgctttt ggaccgaagt gggcaaggca aagtctataa tctgatcaac 3000
cggaggcgat ttcagcagat ggatgtgcta gagggactga atgtccttgt gacaatttca 3060
ggaaagaaga ataagctacg agtttactat ctttcatggt taagaaacag aatactacat 3120
aatgaccag aagtagaaaa gaaacaaggc tggatcactg ttggggactt ggaaggctgt 3180
atacattata aagttgttaa atatgaaagg atcaaatttt tgggtgattgc cttaaagaat 3240
gctgtggaaa tatatgcttg ggctcctaaa ccgtatcata aattcatggc atttaagtct 3300
tttgcagatc tccagcaca gcctctgcta gttgatctca cggtagaaga aggtcaaaga 3360
ttaaagggtta tttttggttc acacactggg ttccatgtaa ttgatgttga ttcaggaaac 3420
tcttatgata tctacatacc atctcatatt cagggcaata tcaactcctca tgctattgtc 3480
atcttgcta aaacagatgg aatggaaatg cttgtttgct atgaggatga ggggggtgat 3540
gtaaacacct atggccggat aactaaggat gtgggtgctc aatggggaga aatgccacg 3600
tctgtggcct acattcattc caatcagata atgggctggg gcgagaaagc tattgagatc 3660
cggtcagtgg aaacaggaca tttggatgga gtatttatgc ataagcgagc tcaaagggtta 3720
aagtttctat gtgaaagaaa tgataaggta ttttttgcac ccgtgcgac tggaggaagt 3780
agccaagtgt ttttcatgac cctcaacaga aattccatga tgaactggta a 3831

<210> 6

<211> 3972

<212> DNA

<213> Homo sapiens

<400> 6

atggcgagcg actccccggc tcgaagcctg gatgaaatag atctctcggc tctgagggac 60

cctgcaggga tctttgaatt ggtggaactt gttggaaatg gaacatacgg gcaagtttat	120
aagggtcgtc atgtcaaaac gggccagctt gcagccatca aggttatgga tgtcacaggg	180
gatgaagagg aagaaatcaa acaagaaatt aacatgttga agaaatattc tcatcaccgg	240
aatattgcta catactatgg tgctttttatc aaaaagaacc caccaggcat ggatgaccaa	300
ctttgggttg tgatggagtt ttgtgggtgct ggctctgtca ccgacctgat caagaacaca	360
aaaggttaaca cggtgaaaga ggagtggatt gcatacatct gcagggaaat cttacggggg	420
ctgagtcacc tgcaccagca taaagtgatt catcgagata ttaaagggca aaatgtcttg	480
ctgactgaaa atgcagaagt taaactagtg gactttggag tcagtgtctca gcttgatcga	540
acagtgggca ggaggaatac ttccattgga actccctact ggatggcacc agaagttatt	600
gcctgtgatg aaaaccaga tgccacatat gatttcaaga gtgacttggt gtctttgggt	660
atcaccgcca ttgaaatggc agaaggtgct cccctctct gtgacatgca ccccatgaga	720
gtctcttcc tcatccccg gaatccagcg cctcggctga agtctaagaa gtgggtcaaaa	780
aaattccagt catttattga gagctgcttg gtaaagaatc acagccagcg accagcaaca	840
gaacaattga tgaagcatcc atttatacga gaccaacctt atgagcgaca ggtccgcatt	900
caactcaagg accatattga tagaacaag aagaagcgag gagaaaaaga tgagacagag	960
tatgagtaca gtggaagtga ggaagaagag gaggagaatg actcaggaga gccagctcc	1020
atcctgaatc tgccagggga gtcgacgtg cggagggact ttctgaggct gcagctggcc	1080
aacaaggagc gttctgaggc cctacggagg cagcagctgg agcagcagca gcgggagaat	1140
gaggagcaca agcggcagct gctggccgag cgtcagaagc gcacgagga gcagaaagag	1200
cagaggcggc ggctggagga gcaacaaagg cgagagaagg agctgcggaa gcagcaggag	1260
agggagcagc gccggcacta tgaggagcag atgcgccggg aggaggagag gaggcgtgcg	1320
gagcatgaac aggaatataa gcgcaaaca ttggaagaac agagacaagc agaaagactg	1380
cagaggcagc taaagcaaga aagagactac ttagtttccc ttcagcatca gcggcaggag	1440
cagaggcctg tggagaagaa gccactgtac cattacaaag aaggaatgag tcctagttag	1500
aagccagcat gggccaagga ggtagaagaa cggtaaggc tcaaccggca aagttccct	1560
gccatgcctc acaaggttgc caacaggata tctgacccca acctgcccc aaggtcggag	1620
tccttcagca ttagtggagt tcagcctgct cgaacacccc ccatgctcag accagtcgat	1680
ccccagatcc cacatctggt agctgtaaaa tcccaggagc ctgccttgac cgcctccag	1740
tcagtgcacg agcagccac aaagggcctc tctgggttcc aggaggctct gaacgtgacc	1800
tcccaccgag tggagatgcc acgccagaac tcagatccca cctcggaaaa tcctcctctc	1860
cccactcgca ttgaaaagtt tgaccgaagc tcttggttac gacaggaaga agacattcca	1920

ccaaagggtgc	ctcaaagaac	aacttctata	tccccagcat	tagccagaaa	gaattctcct	1980
gggaatggta	gtgctctggg	accagacta	ggatctcaac	ccatcagagc	aagcaaccct	2040
gatctccgga	gaactgagcc	catcttggag	agccccttgc	agaggaccag	cagtggcagt	2100
tctccagct	ccagcaccce	tagtcccag	cccagctccc	aaggaggctc	ccagcctgga	2160
tcacaagcag	gatccagtga	acgcaccaga	gttcgagcca	acagtaagtc	agaaggatca	2220
cctgtgcttc	cccatgagcc	tgccaagggtg	aaaccagaag	aatccaggga	cattaccggg	2280
cccagtcgac	cagctgatct	gacggcatta	gccaaagaac	taagagaact	ccggattgaa	2340
gaaacaaacc	gcccaatgaa	gaagggtgact	gattactcct	cctccagtga	ggagtcagaa	2400
agtagcgagg	aagaggagga	agatggagag	agcgagaccc	atgatgggac	agtggctgtc	2460
agcgacatac	ccagactgat	accaacagga	gtcccaggca	gcaacgagca	gtacaatgtg	2520
ggaatgggtg	ggacgcatgg	gctggagacc	tctcatgctg	acagtttcag	cggcagtatt	2580
tcaagagaag	gaaccttgat	gattagagag	acgtctggag	agaagaagcg	atctggccac	2640
agtgcagca	atggctttgc	tggccacatc	aacctccctg	acctgggtgca	gcagagccat	2700
tctccagctg	gaaccccgac	tgagggtgctg	gggctgctct	caaccattc	ccaggagatg	2760
gactctggga	ctgaatatgg	catggggagc	agcaccaaag	cctccttcac	cccctttgtg	2820
gaccccgag	tataccagac	gtctccact	gatgaagatg	aagaggatga	ggaatcatca	2880
gccgcagctc	tgtttactag	cgaacttctt	aggcaagaac	aggccaaact	caatgaagca	2940
agaaagattt	cggtggtaaa	tgtaaaccac	accaacattc	ggcctcatag	cgacacacca	3000
gaaatcagaa	aatacaagaa	acgattcaac	tcagaaatac	tttgtgcagc	tctgtggggt	3060
gtaaaccttc	tggtggggac	tgaaaatggc	ctgatgcttt	tggaccgaag	tgggcaaggc	3120
aaagtctata	atctgatcaa	ccggaggcga	tttcagcaga	tggatgtgct	agagggtgctg	3180
aatgtccttg	tgacaatttc	aggaaagaag	aataagctac	gagtttacta	tctttcatgg	3240
ttaagaaaca	gaatactaca	taatgacca	gaagtagaaa	agaaacaagg	ctggatcact	3300
gttggggact	tggaaggctg	tatacattat	aaagttgtta	aatatgaaag	gatcaaattt	3360
ttgggtgattg	ccttaaagaa	tgctgtggaa	atatatgctt	gggctcctaa	accgtatcat	3420
aaattcatgg	catttaagtc	ttttgcagat	ctccagcaca	agcctctgct	agttgatctc	3480
acggtagaag	aaggtaaaag	attaaaggtt	atTTTTggtt	cacacactgg	tttccatgta	3540
attgatgttg	attcagggaaa	ctcttatgat	atctacatac	catctcatat	tcagggcaat	3600
atcactcctc	atgctattgt	catcttgctt	aaaacagatg	gaatggaaat	gcttgtttgc	3660
tatgaggatg	aggggggtgta	tgtaaacacc	tatggccgga	taactaagga	tgtgggtgctc	3720
caatggggag	aaatgcccac	gtctgtggcc	tacattcatt	ccaatcagat	aatgggctgg	3780

ggcgagaaag ctattgagat ccggtcagtg gaaacaggac atttggatgg agtatttatg 3840
cataagcgag ctcaaagggt aaagtttcta tgtgaaagaa atgataaggt attttttgca 3900
tccgtgcgat ctggaggaag tagccaagtg tttttcatga ccctcaacag aaattccatg 3960
atgaactgggt aa 3972

<210> 7
<211> 3894
<212> DNA
<213> Homo sapiens

<400> 7
atggcgagcg actccccggc tcgaagcctg gatgaaatag atctctcggc tctgagggac 60
cctgcagggga tctttgaatt ggtggaactt gttggaatg gaacatacgg gcaagtttat 120
aagggtcgtc atgtcaaaac gggccagctt gcagccatca aggttatgga tgtcacaggg 180
gatgaagagg aagaaatcaa acaagaaatt aacatgttga agaaatattc tcatcaccgg 240
aatattgcta catactatgg tgcttttata aaaaagaacc caccaggcat ggatgaccaa 300
ctttggttgg tgatggagtt ttgtggtgct ggctctgtca ccgacctgat caagaacaca 360
aaaggttaaca cgttgaaaga ggagtggatt gcatacatct gcagggaaat cttacggggg 420
ctgagtcacc tgcaccagca taaagtgatt catcgagata ttaaaggga aaatgtcttg 480
ctgactgaaa atgcagaagt taaactagtg gactttggag tcagtgtca gcttgatcga 540
acagtgggca ggaggaatac tttcattgga actccctact ggatggcacc agaagttatt 600
gcctgtgatg aaaaccaga tgccacatat gatttcaaga gtgacttggt gtctttgggt 660
atcaccgcca ttgaaatggc agaaggtgct cccctctct gtgacatgca ccccatgaga 720
gctctcttcc tcatcccccg gaatccagcg cctcggtga agtctaagaa gtgggtcaaaa 780
aaattccagt catttattga gagctgcttg gtaaagaatc acagccagcg accagcaaca 840
gaacaattga tgaagcatcc atttatacga gaccaacct atgagcgaca ggtccgcatt 900
caactcaagg accatattga tagaacaag aagaagcgag gagaaaaaga tgagacagag 960
tatgagtaca gtggaagtga ggaagaagag gaggagaatg actcaggaga gccagctcc 1020
atcctgaatc tgccagggga gtcgacgtg cggagggact ttctgaggct gcagctggcc 1080
aacaaggagc gttctgaggc cctacggagg cagcagctgg agcagcagca gcgggagaat 1140
gaggagcaca agcggcagct gctggccgag cgtcagaagc gcatcgagga gcagaaagag 1200
cagagggcggc ggctggagga gcaacaaagg cgagagaagg agctgcggaa gcagcaggag 1260
agggagcagc gccggcacta tgaggagcag atgcgccggg aggaggagag gaggcgtgctg 1320
gagcatgaac aggaatacat caggcgacag ttagaggagg agcagagaca gttagagatc 1380
ttgcagcagc agctactgca tgaacaagct ctacttcttg aatataagcg caaacaattg 1440

gaagaacaga gacaagcaga aagactgcag aggcagctaa agcaagaaag agactactta	1500
gtttcccttc agcatcagcg gcaggagcag aggcctgtgg agaagaagcc actgtaccat	1560
tacaaagaag gaatgagtcc tagtgagaag ccagcatggg ccaaggagat cccacatctg	1620
gtagctgtaa aatcccaggg acctgccttg accgcctccc agtcagtgca cgagcagccc	1680
acaaagggcc tctctgggtt tcaggaggct ctgaacgtga cctcccaccg cgtggagatg	1740
ccacgccaga actcagatcc cacctcggaa aatcctcctc tccccactcg cattgaaaag	1800
tttgaccgaa gctcttggtt acgacaggaa gaagacattc caccaaaggt gcctcaaaga	1860
acaacttcta tatccccagc attagccaga aagaattctc ctgggaatgg tagtgctctg	1920
ggaccagac taggatctca acccatcaga gcaagcaacc ctgatctccg gagaactgag	1980
cccatcttgg agagcccctt gcagaggacc agcagtggca gttcctccag ctccagcacc	2040
cctagctccc agcccagctc ccaaggaggc tcccagcctg gatcacaagc aggatccagt	2100
gaacgcacca gagttcgagc caacagtaag tcagaaggat cacctgtgct tccccatgag	2160
cctgccaaagg tgaaccaga agaatccagg gacattaccg ggcccagtcg accagctgat	2220
ctgacggcat tagccaaaga actaagagaa ctccggattg aagaaacaaa ccgccaatg	2280
aagaaggtga ctgattactc ctctccagt gaggagttag aaagtagcga ggaagaggag	2340
gaagatggag agagcgagac ccatgatggg acagtggctg tcagcgacat acccagactg	2400
ataccaacag gagtccagg cagcaacgag cagtacaatg tgggaatggt ggggacgcat	2460
gggctggaga cctctcatgc ggacagtctc agcggcagta tttcaagaga aggaaccttg	2520
atgattagag agacgtctgg agagaagaag cgatctggcc acagtgacag caatggcttt	2580
gctggccaca tcaacctccc tgacctggtg cagcagagcc attctccagc tggaaccccg	2640
actgagggac tggggcgct ctcaacccat tcccaggaga tggactctgg gactgaatat	2700
ggcatgggga gcagcaccaa agcctccttc acccctttg tggacccag agtataccag	2760
acgtctccca ctgatgaaga tgaagaggat gaggaatcat cagccgcagc tctgtttact	2820
agcgaacttc ttaggcaaga acaggccaaa ctcaatgaag caagaaagat ttcggtggta	2880
aatgtaaacc caaccaacat tcggcctcat agcgacacac cagaaatcag aaaatacaag	2940
aaacgattca actcagaaat actttgtgca gctctgtggg gtgtaaacct tctggtggg	3000
actgaaaatg gcctgatgct tttggaccga agtgggcaag gcaaagtcta taatctgac	3060
aaccggaggc gatttcagca gatggatgtg ctagagggac tgaatgtcct tgtgacaatt	3120
tcaggaaaga agaataagct acgagtttac tatctttcat ggtaagaaa cagaatacta	3180
cataatgacc cagaagtaga aaagaaacaa ggctggatca ctgttgggga cttggaaggc	3240
tgtatacatt ataaagttgt taaatatgaa aggatcaaat ttttggtgat tgccttaag	3300

aatgctgtgg aaatatatgc ttgggctcct aaaccgtatc ataaattcat ggcatttaag 3360
 tcttttgcag atctccagca caagcctctg ctagtgtgac tcacggtaga agaagggtcaa 3420
 agattaaagg ttatttttgg ttcacacact ggtttccatg taattgatgt tgattcagga 3480
 aactcttatg atatctacat accatctcat attcagggca atatcactcc tcatgctatt 3540
 gtcacottgc ctaaaacaga tgggaatggaa atgcttgttt gctatgagga tgaggggggtg 3600
 tatgtaaaca cctatggccg gataactaag gatgtggtgc tccaatgggg agaaatgccc 3660
 acgtctgtgg cctacattca ttccaatcag ataatgggct ggggcgagaa agctattgag 3720
 atccggtcag tggaaacagg acatttggat ggagtattta tgcataagcg agctcaaagg 3780
 ttaaagtttc tatgtgaaag aaatgataag gtattttttg catccgtgcg atctggagga 3840
 agtagccaag tgtttttcat gaccctcaac agaaattcca tgatgaactg gtaa 3894

<210> 8

<211> 3807

<212> DNA

<213> Homo sapiens

<400> 8

atggcgagcg actccccggc tcgaagcctg gatgaaatag atctctcggc tctgagggac 60
 cctgcaggga tctttgaatt ggtggaactt gttggaaatg gaacatacgg gcaagtttat 120
 aagggtcgtc atgtcaaaac gggccagctt gcagccatca aggttatgga tgtcacaggg 180
 gatgaagagg aagaaatcaa acaagaaatt aacatgttga agaaatattc tcatcaccgg 240
 aatattgcta catactatgg tgcttttatc aaaaagaacc caccaggcat ggatgaccaa 300
 ctttgggttg tgatggagtt ttgtggtgct ggctctgtca ccgacctgat caagaacaca 360
 aaaggttaaca cgttgaaaga ggagtggatt gcatacatct gcagggaaat cttacggggg 420
 ctgagtcacc tgcaccagca taaagtgatt catcgagata ttaaagggca aaatgtcttg 480
 ctgactgaaa atgcagaagt taaactagtg gactttggag tcagtgtca gcttgatcga 540
 acagtgggca ggaggaatac ttctattgga actccctact ggatggcacc agaagttatt 600
 gcctgtgatg aaaaccaga tgccacatat gatttcaaga gtgacttgtg gtctttgggt 660
 atcaccgcca ttgaaatggc agaaggtgct cccctctct gtgacatgca ccccatgaga 720
 gctctcttcc tcatcccccg gaatccagcg cctcggctga agtctaagaa gtggtcaaaa 780
 aaattccagt catttattga gagctgcttg gtaaagaatc acagccagcg accagcaaca 840
 gaacaattga tgaagcatcc atttatacga gaccaaccta atgagcgaca ggtccgcatt 900
 caactcaagg accatattga tagaacaag aagaagcgag gagaaaaaga tgagacagag 960
 tatgagtaca gtggaagtga ggaagaagag gaggagaatg actcaggaga gcccgctcc 1020

atcctgaatc	tgccagggga	gtcgacgctg	cggagggact	ttctgaggct	gcagctggcc	1080
aacaaggagc	gttctgaggc	cctacggagg	cagcagctgg	agcagcagca	gcgggagaat	1140
gaggagcaca	agcggcagct	gctggccgag	cgtcagaagc	gcatcgagga	gcagaaagag	1200
cagaggcggc	ggctggagga	gcaacaaagg	cgagagaagg	agctgcggaa	gcagcaggag	1260
agggagcagc	gccggcacta	tgaggagcag	atgcgccggg	aggaggagag	gaggcgtgcg	1320
gagcatgaac	aggaatataa	gcgcaaacia	ttggaagaac	agagacaagc	agaaagactg	1380
cagaggcagc	taaagcaaga	aagagactac	ttagtttccc	ttcagcatca	gcggcaggag	1440
cagaggcctg	tggagaagaa	gccactgtac	cattacaaag	aaggaatgag	tcctagttag	1500
aagccagcat	gggccaagga	gatcccat	ctggtagctg	taaaatccca	gggacctgcc	1560
ttgaccgct	cccagtcagt	gcacgagcag	cccacaaagg	gcctctctgg	gtttcaggag	1620
gctctgaacg	tgacctccca	ccgcgtggag	atgccacgcc	agaactcaga	tcccacctcg	1680
gaaaatcctc	ctctccccac	tcgcattgaa	aagtttgacc	gaagctcttg	gttacgacag	1740
gaagaagaca	ttccacaaaa	ggtgcctcaa	agaacaactt	ctatatcccc	agcattagcc	1800
agaaagaatt	ctcctgggaa	tggtagtgt	ctgggaccca	gactaggatc	tcaacccatc	1860
agagcaagca	accctgatct	ccggagaact	gagcccatct	tggagagccc	cttgacagag	1920
accagcagtg	gcagttcctc	cagctccagc	acccttagct	cccagcccag	ctcccaagga	1980
ggctcccagc	ctggatcaca	agcaggatcc	agtgaacgca	ccagagttcg	agccaacagt	2040
aagtcagaag	gatcacctgt	gcttccccat	gagcctgcca	aggtgaaacc	agaagaatcc	2100
agggacatta	cccggcccag	tcgaccagct	gatctgacgg	cattagccaa	agaactaaga	2160
gaactccgga	ttgaagaaac	aaaccgcca	atgaagaagg	tgactgatta	ctcctcctcc	2220
agtgaggagt	cagaaagtag	cgaggaagag	gaggaagatg	gagagagcga	gacccatgat	2280
gggacagtg	ctgtcagcga	catacccaga	ctgataccaa	caggagctcc	aggcagcaac	2340
gagcagtaca	atgtgggaat	ggtggggacg	catgggctgg	agacctctca	tgcgagacagt	2400
ttcagcggca	gtatttcaag	agaaggaacc	ttgatgatta	gagagacgtc	tggagagaag	2460
aagcgatctg	gccacagtga	cagcaatggc	tttgctggcc	acatcaacct	ccctgacctg	2520
gtgcagcaga	gccattctcc	agctggaacc	ccgactgagg	gactggggcg	cgctctcaacc	2580
cattcccagg	agatggactc	tgggactgaa	tatggcatgg	ggagcagcac	caaagcctcc	2640
ttcacccct	ttgtggaccc	cagagtatac	cagacgtctc	ccactgatga	agatgaagag	2700
gatgaggaat	catcagccgc	agctctgttt	actagcgaac	ttcttaggca	agaacaggcc	2760
aaactcaatg	aagcaagaaa	gatttcggtg	gtaaagttaa	acccaaccaa	cattcggcct	2820
catagcgaca	caccagaaat	cagaaaatac	aagaaacgat	tcaactcaga	aatactttgt	2880

gcagctctgt ggggtgtaaa ccttctggtg gggactgaaa atggcctgat gcttttggac 2940
cgaagtgggc aaggcaaagt ctataatctg atcaaccgga ggcgatttca gcagatggat 3000
gtgctagagg gactgaatgt ccttgtgaca atttcaggaa agaagaataa gctacgagtt 3060
tactatcttt catggttaag aaacagaata ctacataatg acccagaagt agaaaagaaa 3120
caaggctgga tcaactgttg ggacttgga ggctgtatac attataaagt tgttaaatat 3180
gaaaggatca aatttttggg gattgcctta aagaatgctg tggaaatata tgcttgggct 3240
cctaaaccgt atcataaatt catggcattt aagtcttttg cagatctcca gcacaagcct 3300
ctgctagttg atctcacggt agaagaagg caaagattaa aggttatttt tggttcacac 3360
actggtttcc atgtaattga tgttgattca ggaaactctt atgatatcta cataccatct 3420
catattcagg gcaatatcac tcctcatgct attgtcatct tgcctaaaac agatggaatg 3480
gaaatgcttg ttgctatga ggatgagggg gtgtatgtaa acacctatgg cgggataact 3540
aaggatgtgg tgctccaatg gggagaaatg cccacgtctg tggcctacat tcattccaat 3600
cagataatgg gctggggcga gaaagctatt gagatccggt cagtggaaac aggacatttg 3660
gatggagtat ttatgcataa gcgagctcaa aggttaaagt ttctatgtga aagaaatgat 3720
aaggatattt ttgcatccgt gcgatctgga ggaagtagcc aagtgtttt catgaccctc 3780
aacagaaatt ccatgatgaa ctggtaa 3807

<210> 9

<211> 2178

<212> DNA

<213> Homo sapiens

<400> 9

ggcacgaggg agagagcgag acccatgatg ggacagtggc tgtcagcgac ataccagac 60
tgataccaac aggagctcca ggcagcaacg agcagtacaa tgtgggaatg gtggggacgc 120
atgggctgga gacctctcat gcggacagtt tcagcggcag tatttcaaga gaaggaacct 180
tgatgattag agagacgtct ggagagaaga agcgatctgg ccacagtgc agcaatggct 240
ttgtggcca catcaacctc cctgacctgg tgcagcagag ccattctcca gctggaacct 300
cgactgaggg actggggcgc gtctcaacct attcccagga gatggactct gggactgaat 360
atggcatggg gagcagcacc aaagcctcct tcacccctt tgtggacccc agagtatacc 420
agacgtctcc cactgatgaa gatgaagagg atgaggaatc atcagccgca gctctgttta 480
ctagcgaact tcttaggcaa gaacaggcca aactcaatga agcaagaaag atttcggtgg 540
taaagttaaa cccaaccaac attcggcctc atagcgacac accagaaatc agaaaataca 600
agaaacgatt caactcagaa atactttgtg cagctctgtg ggggtgtaaac cttctggtgg 660
ggactgaaaa tggcctgatg cttttggacc gaagtgggca aggcaaagtc tataatctga 720

tcaaccggag gcgatttcag cagatggatg tgctagaggg actgaatgtc cttgtgacaa 780
 tttcaggaaa gaagaataag ctacgagttt actatctttc atggttaaga aacagaatac 840
 tacataatga cccagaagta gaaaagaaac aaggctggat cactgttggg gacttggaag 900
 gctgtataca ttataaagtt gttaaatatg aaaggatcaa atttttggtg attgccttaa 960
 agaatgctgt ggaaatatat gcttgggctc ctaaaccgta tcataaatc atggcattta 1020
 agtcttttgc agatctccag cacaagcctc tgctagtga tctcacgga gaagaaggtc 1080
 aaagattaaa ggttattttt ggttcacaca ctggtttcca tgtaattgat gttgattcag 1140
 gaaactctta tgatatctac ataccatctc atattcaggg caatatcact cctcatgcta 1200
 ttgtcatctt gcctaaaaca gatggaatgg aaatgcttgt ttgctatgag gatgaggggg 1260
 tgtatgtaaa cacctatggc cggataacta aggatgtggt gctccaatgg ggagaaatgc 1320
 ccacgtctgt ggcctacatt cattccaatc agataatggg ctggggcgag aaagctattg 1380
 agatccggtc agtggaaaca ggacatttgg atggagtatt tatgcataag cgagctcaaa 1440
 ggttaaagtt tctatgtgaa agaaatgata aggtattttt tgcacccgtg cgatctggag 1500
 gaagtagcca agtgtttttc atgaccctca acagaaatc catgatgaac tggtaacaga 1560
 agagcacttg gcacttatct tcatggcgtt atttctaatt taaaagaaca taactcatgt 1620
 ggacttatgc cagtctagag gcagaatcag aaggcttggg tgaacatc gctttccctt 1680
 tttctctcc ctcgcccct cccagtacag tccatctttc aatgttgag cctgggtgag 1740
 aaggagagaa aaaggtggca ggaatttcca ggagatcccc aagaatgctg ccttgtctgt 1800
 ggacaaagat ggaccatgtg cccttcggaa ttagggatag aaacaaatat tgtgtgctct 1860
 taacgattaa gctgtgttat ggtgggtttt caggttttta ccttttttct ttaccctttt 1920
 actctgcaag aatggggaaa gaatgcatac tgcgaaaatg agtcttttaa attctgtctg 1980
 cctactagtt ttaagtatat ggtatgttgt aaaatttcca atgatgagag acagcacaat 2040
 aaatgtacct tatctcctta ggctgaaggc cataactaca tagtggagta atttaagaac 2100
 tctcttgctt tcaccaaccc aaaaggttgc tttttgatag caactggcta atgaattttt 2160
 aaaaaaaaaa aaaaaaaaaa 2178

<210> 10
 <211> 3996
 <212> DNA
 <213> Homo sapiens

<400> 10
 atggcgagcg actccccggc tcgaagcctg gatgaaatag atctctcggc tctgaggagc 60
 cctgcagggg tctttgaatt ggtggaactt gttggaaatg gaacatacgg gcaagtttat 120

aagggtcgtc atgtcaaaac gggccagctt gcagccatca aggttatgga tgtcacaggg	180
gatgaagagg aagaaatcaa acaagaaatt aacatgttga agaaatattc tcatcaccgg	240
aatattgcta catactatgg tgcttttata aaaaagaacc caccaggcat ggatgaccaa	300
ctttggttgg tgatggagtt ttgtggtgct ggctctgtca cgcacctgat caagaacaca	360
aaaggtaaca cggtgaaaga ggagtggatt gcatacatct gcagggaaat cttacggggg	420
ctgagtcacc tgcaccagca taaagtgatt catcgagata ttaaagggca aaatgtcttg	480
ctgactgaaa atgcagaagt taaactagtg gactttggag tcagtgtca gcttgatcga	540
acagtgggca ggaggaatac ttccattgga actccctact ggatggcacc agaagttatt	600
gcctgtgatg aaaaccaga tgccacatat gatttcaaga gtgacttggt gtctttgggt	660
atcaccgcca ttgaaatggc agaagtgct cccctctct gtgacatgca ccccatgaga	720
gctctcttcc tcatccccg gaatccagcg cctcggctga agtctaagaa gtgggtcaaaa	780
aaattccagt catttattga gagctgcttg gtaaagaatc acagccagcg accagcaaca	840
gaacaattga tgaagcatcc atttatacga gaccaacct atgagcgaca ggtccgcatt	900
caactcaagg accatattga tagaacaag aagaagcgag gagaaaaaga tgagacagag	960
tatgagtaca gtggaagtga ggaagaagag gaggagaatg actcaggaga gccagctcc	1020
atcctgaatc tgccagggga gtcgacgtg cggagggact ttctgaggct gcagctggcc	1080
aacaaggagc gttctgaggc cctacggagg cagcagctgg agcagcagca gcgggagaat	1140
gaggagcaca agcggcagct gctggccgag cgtcagaagc gcacagagga gcagaaagag	1200
cagaggcggc ggctggagga gcaacaaagg cgagagaagg agctgcggaa gcagcaggag	1260
agggagcagc gccggcacta tgaggagcag atgcgccggg aggaggagag gaggcgtgag	1320
gagcatgaac aggaatataa gcgcaaaaca ttggaagaac agagacaagc agaaagactg	1380
cagaggcagc taaagcaaga aagagactac ttagtttccc ttcagcatca gcggcaggag	1440
cagaggcctg tggagaagaa gccactgtac cattacaaag aaggaatgag tcctagttag	1500
aagccagcat gggccaagga ggtagaagaa cggtaaggc tcaaccggca aagttcccct	1560
gccatgcctc acaagggtgc caacaggata tctgacccca acctgcccc aaggctcgag	1620
tccttcagca ttagtggagt tcagcctgct cgaacacccc ccatgctcag accagtcat	1680
ccccagatcc cacatctggt agctgtaaaa tcccaggagc ctgccttgac cgctccag	1740
tcagtgcagc agcagccac aaagggcctc tctgggttcc aggaggctct gaacgtgacc	1800
tcccaccgagc tggagatgcc acgccagaac tcagatccca cctcggaata tcctcctctc	1860
cccactcgca ttgaaaagtt tgaccgaagc tcttggttac gacaggaaga agacattcca	1920
ccaaagggtgc ctcaaagaac aacttctata tcccagcat tagccagaaa gaattctct	1980

gggaatggta	gtgctctggg	acccagacta	ggatctcaac	ccatcagagc	aagcaaccct	2040
gatctccgga	gaactgagcc	catcttggag	agccccttgc	agaggaccag	cagtggcagt	2100
tcctccagct	ccagcacccc	tagctcccag	cccagctccc	aaggaggctc	ccagcctgga	2160
tcacaagcag	gatccagtga	acgcaccaga	gttcgagcca	acagtaagtc	agaaggatca	2220
cctgtgcttc	cccatgagcc	tgccaagggtg	aaaccagaag	aatccaggga	cattacccgg	2280
cccagtcgac	cagctagcta	caaaaaagct	atagatgagg	atctgacggc	attagccaaa	2340
gaactaagag	aactccggat	tgaagaaaca	aaccgccccaa	tgaagaaggt	gactgattac	2400
tcctcctcca	gtgaggagtc	agaaagtagc	gaggaagagg	aggaagatgg	agagagcgag	2460
acccatgatg	ggacagtggc	tgtcagcgac	ataccagac	tgataccaac	aggagctcca	2520
ggcagcaacg	agcagtacaa	tgtgggaatg	gtggggacgc	atgggctgga	gacctctcat	2580
gcggaacagt	tcagcggcag	tatttcaaga	gaaggaacct	tgatgattag	agagacgtct	2640
ggagagaaga	agcgatctgg	ccacagtgc	agcaatggct	ttgctggcca	catcaacctc	2700
cctgacctgg	tgacagagag	ccattctcca	gctggaacct	cgactgaggg	actggggcgc	2760
gtctcaacct	attcccagga	gatggactct	gggactgaat	atggcatggg	gagcagcacc	2820
aaagcctcct	tcacccctt	tgtggacccc	agagtatacc	agacgtctcc	cactgatgaa	2880
gatgaagagg	atgaggaatc	atcagccgca	gctctgttta	ctagcgaact	tcttaggcaa	2940
gaacaggcca	aactcaatga	agcaagaaag	atttcggtgg	taaatgtaaa	cccaaccaac	3000
attcggcctc	atagcgacac	accagaaatc	agaaaataca	agaaacgatt	caactcagaa	3060
atactttgtg	cagctctgtg	gggtgtaaac	cttctggtgg	ggactgaaaa	tggcctgatg	3120
cttttggacc	gaagtgggca	aggcaaagtc	tataatctga	tcaaccggag	gcgatttcag	3180
cagatggatg	tgctagaggg	actgaatgtc	cttgtgacaa	tttcaggaaa	gaagaataag	3240
ctacgagttt	actatctttc	atgggttaaga	aacagaatac	tacataatga	cccagaagta	3300
gaaaagaaac	aaggctggat	cactgttggg	gacttgggaag	gctgtataca	ttataaagtt	3360
gttaaatatg	aaaggatcaa	atttttgggtg	attgccttaa	agaatgctgt	ggaaatatat	3420
gcttgggctc	ctaaaccgta	tcataaatc	atggcattta	agtcttttgc	agatctccag	3480
cacaagcctc	tgctagttag	tctcacggta	gaagaaggtc	aaagattaaa	ggttattttt	3540
ggttcacaca	ctggtttcca	tgtaattgat	gttgattcag	gaaactctta	tgatatctac	3600
ataccatctc	atattcaggg	caatatcact	cctcatgcta	ttgtcatctt	gcctaaaaca	3660
gatggaatgg	aaatgcttgt	ttgctatgag	gatgaggggg	tgtatgtaaa	cacctatggc	3720
cggataacta	aggatgtggg	gctccaatgg	ggagaaatgc	ccacgtctgt	ggcctacatt	3780
cattccaatc	agataatggg	ctggggcgag	aaagctattg	agatccgggc	agtggaaaca	3840

ggacatttgg atggagtatt tatgcataag cgagctcaaa ggtaaagtt tctatgtgaa 3900
 agaaatgata aggtattttt tgcattcgtg cgatctggag gaagtagcca agtgtttttc 3960
 atgacctca acagaaattc catgatgaac tggtaa 3996

<210> 11
 <211> 2490
 <212> DNA
 <213> Homo sapiens

<400> 11
 agtacagcag caatcataag aggggaaaag ccatcactgt ggcttgggca ggagtcccag 60
 aatactgggg cacaatttct aatcccacat attttcccat taactctggg ggtgaccagc 120
 ttcacctttc caaaacaaaa tgagaaccca atgtttgtat atatgtgtac atacacatat 180
 gtacacatat atattcagga ctgaacagtc tcagtctagc tattggtttt gaaaaagttt 240
 aaattgattt catctttctt ttctagcttc tacacgctac aaacatcatt ttcttagttc 300
 catgcagtaa ctatgtttgt cacagttcta tatagagctt ttttttttct tgttgcttaa 360
 gctggagcac tgacttgctg agagatgtag ctttggtcgt atctaccact catatgctga 420
 acaaattttt ctttcatagg atctgacggc attagccaaa gaactaagag aactccggat 480
 tgaagaaaca aaccgcccc aagaaggt gactgattac tcctcctcca gtgaggagtc 540
 agaaagtagc gaggaagagg aggaagatgg agagagcgag acccatgatg ggacagtggc 600
 tgtcagcgac ataccagac tgataccaac aggagctcca ggcagcaacg agcagtacaa 660
 tgtgggaatg gtggggacgc atgggctgga gacctctcat gcgacagtt tcagtggcag 720
 tatttcaaga gaaggaacct tgatgattag agagacgtct ggagagaaga agcgatctgg 780
 ccacagtgac agcaatggct ttgctggcca catcaacctc cctgacctgg tgcagcagag 840
 ccattctcca gctggaaccc cgactgaggg actggggcgc gtctcaaccc attcccagga 900
 gatggactct gggactgaat atggcatggg gagcagcacc aaagcctcct tcacccctt 960
 tgtggacccc agagtatacc agacgtctcc cactgatgaa gatgaagagg atgaggaatc 1020
 atcagccaca gctctgttta ctagcgaact tcttaggcaa gaacaggcca aactcaatga 1080
 agcaagaaag atttcggtgg taaatgtaaa cccaaccaac attcggcctc atagcgacac 1140
 accagaaatc agaaaataca agaaacgatt caactcagaa atactttgtg cagctctgtg 1200
 ggggtgaaac cttctgggtg ggactgaaaa tggcctgatg cttttggacc gaagtgggca 1260
 aggcaaagtc tataatctga tcaaccggag gcgatttcag cagatggatg tgctagaggg 1320
 actgaatgtc cttgtgacaa tttcaggaaa gaagaataag ctacgagttt actatctttc 1380
 atggttaaga aacagaatac tacataatga ccagaagta gaaaagaaac aaggctggat 1440
 cactgttggg gacttggaag gctgtatata ttataaagtt gttaaataatg aaaggatcaa 1500

```

atttttgggtg attgccttaa agaatgctgt ggaaatatat gcttgggctc ctaaaccgta 1560
tcataaatte atggcattta agtcttttgc agatctccag cacaagcctc tgctagttaga 1620
tctcacggta gaagaaggtc aaagattaaa ggttatTTTT ggttcacaca ctggtttcca 1680
tgtaattgat gttgattcag gaaactctta tgatatctac ataccatctc atattcaggg 1740
caatatcact cctcatgcta ttgtcatctt gcctaaaaca gatggaatgg aaatgcttgt 1800
ttgctatgag gatgaggggg tgtatgtaaa cacctatggc cggataacta aggatgtggg 1860
gctccaatgg ggagaaatgc ccacgtctgt ggcctacatt cattccaatc agataatggg 1920
ctggggcgag aaagctattg agatccggtc agtggaaaca ggacatttgg atggagtatt 1980
tatgcataag cgagctcaaa ggttaaagtt tctatgtgaa agaaatgata aggtatTTTT 2040
tgcatccgtg cgatctggag gaagtagcca agtgTTTT atgacctca acagaaatc 2100
catgatgaac tggtaacaga agagcacttg gcacttatct tcatggcggtt atttctaatt 2160
taaaagaaca taactcatgt ggacttatgc cagtctagag gcagaatcag aaggcttggg 2220
tgaacatate gctttccctt ttctctctcc ctccgcccct cccagtacag tccatctttc 2280
aatgttgcag cctgggtgag aaggagagaa aaaggtggca ggaatttcca ggagatcccc 2340
aagaatgctg ccttgtctgt ggacaaagat ggaccatgtg cccttcggaa ttagggatag 2400
aaacaaatat tgtgtgctct taacgattaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2460
aaaaaaaaaa aaggaaaaaa aaaaaaaaaa 2490

```

```

<210> 12
<211> 3817
<212> DNA
<213> Homo sapiens

```

```

<400> 12
cacagagcga cagagacatt tattgttatt tgttttttgg tggcaaaaag ggaaaatggc 60
gaacgactcc cctgcaaaaa gtctggtgga catcgacctc tcctccctgc gggatcctgc 120
tggtgatttt gagctggtgg aagtgggtgg aaatggcacc tatggacaag tctataaggg 180
tcgacatggt aaaacgggtc agttggcagc catcaaagtt atggatgtca ctgaggatga 240
agaggaagaa atcaaactgg agataaatat gctaaagaaa tactctcatc acagaaacat 300
tgcaacatat tatggtgctt tcatcaaaaa gagccctcca ggacatgatg accaactctg 360
gcttggtatg gagttctgtg gggctgggtc cattacagac cttgtgaaga acaccaaagg 420
gaacacactc aaagaagact ggatcgctta catctccaga gaaatcctga ggggactggc 480
acatcttcac attcatcatg tgattcaccg ggatatcaag ggccagaatg tgttgctgac 540
tgagaatgca gaggtgaaac ttgttgactt tgggtgtgagt gctcagctgg acaggactgt 600

```

ggggcggaga aatacgttca taggcactcc ctactggatg gctcctgagg tcatcgcttg	660
tgatgagaac ccagatgcca cctatgatta cagaagtgat ctttggctct gtggcattac	720
agccattgag atggcagaag gtgctcccc tctctgtgac atgcatccaa tgagagcact	780
gtttctcatt cccagaaacc ctctccccg gctgaagtca aaaaaatggt cgaagaagtt	840
ttttagtttt atagaagggt gcctggtgaa gaattacatg cagcgccct ctacagagca	900
gcttttgaaa catcctttta taagggatca gccaaatgaa aggcaagtta gaatccagct	960
taaggatcat atagatcgta ccaggaagaa gagaggcgag aaagatgaaa ctgagtatga	1020
gtacagtggg agtgaggaag aagaggagga agtgctgaa caggaaggag agccaagtgc	1080
cattgtgaac gtgcctgtg agtctactct tcgccgagat ttcttgagac tgcagcagga	1140
gaacaaggaa cgttccgagg ctcttcggag acaacagtta ctacaggagc aacagctccg	1200
ggagcaggaa gaatataaaa ggcaactgct ggcagagaga cagaagcgga ttgagcagca	1260
gaaagaacag aggcgacggc tagaagagca acaaaggaga gagcggaag ctagaaggca	1320
gcaggaacgt gaacagcgaa ggagagaaca agaagaaaag aggcgtctag aggagttgga	1380
gagaaggcgc aaagaagaag aggagaggag acgggcagaa gaagaaaaga ggagagttga	1440
aagagaacag gagtatatca ggcgacagct agaagaggag cagcggcact tggaagtcct	1500
tcagcagcag ctgctccagg agcaggccat gttactgcat gaccatagga ggccgcaccc	1560
gcagcactcg cagcagccgc caccaccgca gcaggaaagg agcaagccaa gcttccatgc	1620
tcccgagccc aaagcccact acgagcctgc tgaccgagcg cgagagggtc ctgtgagaac	1680
aacatctcgc tcccctgttc tgtcccgctc agattcccca ctgcagggca gtgggcagca	1740
gaatagccag gcaggacaga gaaactccac cagcagtatt gagcccaggc ttctgtggga	1800
gagagtggag aagctggtgc ccagacctgg cagtggcagc tcctcagggt ccagcaactc	1860
aggatcccag cccgggtctc accctgggtc tcagagtggc tccggggaac gcttcagagt	1920
gagatcatca tccaagtctg aaggctctcc atctcagcgc ctggaaaatg cagtgaaaaa	1980
acctgaagat aaaaaggaag ttttcagacc cctcaagcct gctggcgaag tggatctgac	2040
cgcactggcc aaagagcttc gagcagtgga agatgtacgg ccacctcaca aagtaacgga	2100
ctactctca tccagtgagg agtcggggac gacggatgag gaggacgacg atgtggagca	2160
ggaaggggct gacgagtcca cctcaggacc agaggacacc agagcagcgt catctctgaa	2220
tttgagcaat ggtgaaacgg aatctgtgaa aaccatgatt gtccatgatg atgtagaaag	2280
tgagccggcc atgaccccat ccaaggaggg cactctaate gtccgccaga ctcagtccgc	2340
tagtagcaca ctccagaaac acaaattctc ctctctctt acacctttta tagaccccag	2400
attactacag atttctccat ctacgggaac aacagtgaca tctgtggtgg gattttcttg	2460

tgatgggatg agaccagaag ccataaggca agatcctacc cggaaaggct cagtgggtcaa	2520
tgtgaatcct accaactacta ggccacagag tgacaccccg gagattcgta aatacaagaa	2580
gaggtttaac tctgagattc tgtgtgctgc cttatgggga gtgaatttgc tagtgggtac	2640
agagagtggc ctgatgctgc tggacagaag tggccaaggg aaggtctatc ctcttatcaa	2700
ccgaagacga tttcaacaaa tggacgtact tgagggtctg aatgtcttgg tgacaatatc	2760
tggcaaaaag gataagttac gtgtctacta tttgtcctgg ttaagaaata aaatacttca	2820
caatgatcca gaagttgaga agaagcaggg atggacaacc gtaggggatt tggaaggatg	2880
tgtacattat aaagttgtaa aatatgaaag aatcaaattt ctggtgattg ctttgaagag	2940
ttctgtggaa gtctatgcgt gggcaccaaa gccatatcac aaatttatgg cctttaagtc	3000
atttgagaa ttggtacata agccattact ggtggatctc actggtgagg aaggccagag	3060
gttgaaagtg atctatggat cctgtgctgg attccatgct gttgatgtgg attcaggatc	3120
agtctatgac atttatctac caacacatgt aagaaagaac ccacactcta tgatccagt	3180
tagcatcaaa ccccatgcaa tcatcctcct cccaataca gatggaatgg agcttctggt	3240
gtgctatgaa gatgaggggg tttatgtaaa cacatatgga aggatcacca aggatgtagt	3300
tctacagtgg ggagagatgc ctacatcagt agcatatatt cgatccaatc agacaatggg	3360
ctggggagag aaggccatag agatccgac tggtggaaact ggtcacttgg atggtgtgtt	3420
catgcacaaa agggctcaaa gactaaaatt cttgtgtgaa cgcaatgaca aggtgttctt	3480
tgctctgtt cggtctggtg gcagcagtc ggtttatttc atgaccttag gcaggacttc	3540
tcttctgagc tggtagaagc agtgtgatcc agggattact ggctccaga gtcttcaaga	3600
tcctgagaac ttggaattcc ttgtaactgg agctcggagc tgcaccgagg gcaaccagga	3660
cagctgtgtg tgcagacctc atgtgttggg ttctctcccc tccttctgt tcctcttata	3720
taccagttta tccccattct tttttttttt cttactccaa aataaatcaa ggctgcaatg	3780
cagctggtgc tgttcagatt ctaaaaaaaaa aaaaaaa	3817

<210> 13

<211> 3864

<212> DNA

<213> Homo sapiens

<400> 13

aattcgagga tccgggtacc atggcacaga ggcacagaga catttattgt tatttgtttt	60
ttggtggcaa aaagggaaaa tggcgaacga ctcccctgca aaaagtctgg tggacatcga	120
cctctcctcc ctgcgggatc ctgctgggat ttttgagctg gtggaagtgg ttggaatgg	180
cacctatgga caagtctata agggctcgaca tgttaaaacg ggtcagttgg cagccatcaa	240
agttatggat gtcactgagg atgaagagga agaaatcaaa ctggagataa atatgctaaa	300

gaaatactct catcacagaa acattgcaac atattatggt gctttcatca aaaagagccc	360
tccaggacat gatgaccaac tctggcttgt tatggagttc tgtggggctg ggtccattac	420
agaccttgtg aagaacacca aagggaacac actcaaagaa gactggatcg cttacatctc	480
cagagaaatc ctgaggggac tggcacatct tcacattcat catgtgattc accgggatat	540
caagggccag aatgtgttgc tgactgagaa tgcagagggtg aaacttggtg actttggtgt	600
gagtgtcag ctggacagga ctgtggggcg gagaaatacg ttcataggca ctccctactg	660
gatggctcct gaggtcatcg cctgtgatga gaaccagat gccacctatg attacagaag	720
tgatctttgg tcttgtggca ttacagccat tgagatggca gaagggtgctc cccctctctg	780
tgacatgcat ccaatgagag cactgtttct cattcccaga aaccctctc cccggctgaa	840
gtcaaaaaaa tggtcgaaga agtttttttag tttatagaa ggggtgcctgg tgaagaatta	900
catgcagcgg ccctctacag agcagctttt gaaacatcct tttataaggg atcagccaaa	960
tgaaggcaa gttagaatcc agcttaagga tcatatagat cgtaccagga agaagagagg	1020
cgagaaagat gaaactgagt atgagtacag tgggagtgtg gaagaagagg aggaagtgcc	1080
tgaacaggaa ggagagccaa gttccattgt gaacgtgcct ggtgagtcta ctcttcgccg	1140
agatttctctg agactgcagc aggagaacaa ggaacgttcc gaggtctctc ggagacaaca	1200
gttactacag gagcaacagc tccgggagca ggaagaatat aaaaggcaac tgctggcaga	1260
gagacagaag cggattgagc agcagaaaga acagaggcga cggctagaag agcaacaaag	1320
gagagagcgg gaggttagaa ggcagcagga acgtgaacag cgaaggagag aacaagaaga	1380
aaagaggcgt ctagaggagt tggagagaag gcgcaaagaa gaagaggaga ggagacgggc	1440
agaagaagaa aagaggagag ttgaaagaga acaggagtat atcaggcgac agctagaaga	1500
ggagcagcgg cacttggaag tccttcagca gcagctgctc caggagcagg ccatgttact	1560
gcatgaccat aggaggccgc acccgagca ctgcgagcag ccgccaccac cgcagcagga	1620
aaggagcaag ccaagcttcc atgctcccga gcccaaagcc cactacgagc ctgctgaccg	1680
agcgcgagag gttcctgtga gaacaacatc tcgctccctt gttctgtccc gtgcagattc	1740
cccactgcag ggcagtgggc agcagaatag ccaggcagga cagagaaact ccaccagtat	1800
tgagcccagg cttctgtggg agagagtgtg gaagctggtg cccagacctg gcagtggcag	1860
ctcctcaggg tccagcaact caggatccca gcccggtct caccctgggt ctgagagtgg	1920
ctccggggaa cgcttcagag tgagatcatc atccaagtct gaaggctctc catctcagcg	1980
cctggaaaat gcagtgaaaa aacctgaaga taaaaaggaa gttttcagac ccctcaagcc	2040
tgctggcgaa gtggatctga ccgactggc caaagagctt cgagcagtgg aagatgtacg	2100
gccacctcac aaagtaacgg actactctc atccagtgtg gagtcgggga cgacggatga	2160

ggaggacgac gatgtggagc aggaaggggc tgacgagtcc acctcaggac cagaggacac 2220
 cagagcagcg tcatctctga atttgagcaa tggtgaaacg gaatctgtga aaaccatgat 2280
 tgtccatgat gatgtagaaa gtgagccggc catgacccca tccaaggagg gcactctaata 2340
 cgtccgccag actcagtcg tagtagcac actccagaaa cacaatatctt cctcctcctt 2400
 tacacctttt atagacccca gattactaca gatttctcca tctagcggaa caacagtgc 2460
 atctgtggtg ggattttcct gtgatgggat gagaccagaa gccataaggc aagatcctac 2520
 ccggaaggc tcagtggta atgtgaatcc taccaacact aggccacaga gtgacacccc 2580
 ggagattcgt aaatacaaga agaggtttta ctctgagatt ctgtgtgctg ctttatgggg 2640
 agtgaatttg ctagtgggta cagagagtgg cctgatgctg ctggacagaa gtggccaagg 2700
 gaaggtctat cctcttatca accgaagacg atttcaacaa atggacgtac ttgagggctt 2760
 gaatgtcttg gtgacaatat ctggcaaaaa ggataagtta cgtgtctact atttgtcctg 2820
 gtaagaaat aaaatacttc acaatgatcc agaagttgag aagaagcagg gatggacaac 2880
 cgtaggggat ttggaaggat gtgtacatta taaagttgta aaatatgaaa gaatcaaatt 2940
 tctggtgatt gctttgaaga gttctgtgga agtctatgag tgggcaccaa agccatatca 3000
 caaatttatg gcctttaagt catttgaga attggtacat aagccattac tgggtggatct 3060
 cactgttgag gaaggccaga ggttgaaagt gatctatgga tctgtgctg gattccatgc 3120
 tgttgatgtg gattcaggat cagtctatga catttatcta ccaacacatg taagaaagaa 3180
 cccacactct atgatccagt gtagcatcaa acccatgca atcatcatcc tccccaatc 3240
 agatggaatg gagcttctgg tgtgctatga agatgagggg gtttatgtaa acacatatgg 3300
 aaggatcacc aaggatgtag ttctacagtg gggagagatg cctacatcag tagcatatat 3360
 tcgatccaat cagacaatgg gctggggaga gaaggccata gagatccgat ctgtggaaac 3420
 tggtcacttg gatggtgtgt tcatgcacaa aagggtcaa agactaaaat tcttgtgtga 3480
 acgcaatgac aagggtgtct ttgcctctgt tcgggtctgt ggcagcagtc aggtttatct 3540
 catgacctta ggcaggactt ctcttctgag ctggtagaag cagtgtgac cagggattac 3600
 tggcctccag agtcttcaag atcctgagaa cttggaattc cttgtaactg gagctcggag 3660
 ctgcaccgag ggcaaccagg acagctgtgt gtgcagacct catgtgttg gttctctccc 3720
 ctcttctctg ttctcttat ataccagttt atccccattc tttttttttt tcttactcca 3780
 aaataaatca aggctgcaat gcagctggtg ctgttcagat tccaaaaaaa aaaaaaac 3840
 atggtaccg gatcctcgaa ttcc 3864

<210> 14

<211> 3608

<212> DNA

<213> Homo sapiens

<400> 14

```

agggaacaca ctcaaagaag actggatcgc ttacatctcc agagaaatcc tgaggggact      60
ggcacatctt cacattcatc atgtgattca ccgggatatc aagggccaga atgtgttgct      120
gactgagaat gcagagggtga aacttggtga ctttggtgtg agtgctcagc tggacaggac      180
tgtggggcgg agaaatacgt tcataggcac tccctactgg atggctcctg aggtcatcgc      240
ctgtgatgag aaccagatg ccacctatga ttacagaagt gatctttggt cttgtggcat      300
tacagccatt gagatggcag aagggtgctcc ccctctctgt gacatgcac caatgagagc      360
actgtttctc attcccagaa accctcctcc ccggctgaag tcaaaaaaat ggtcgaagaa      420
gttttttagt tttatagaag ggtgcctggt gaagaattac atgcagcggc cctctacaga      480
gcagcttttg aaacatcctt ttataaggga tcagccaaat gaaaggcaag ttagaatcca      540
gcttaaggat catatagatc gtaccaggaa gaagagaggc gagaaagatg aaactgagta      600
tgagtacagt gggagtgagg aagaagagga ggaagtgcct gaacaggaag gagagccaag      660
ttccattgtg aacgtgcctg gtgagtctac tcttcgccga gatttcctga gactgcagca      720
ggagaacaag gaacgttccg aggctcttcg gagacaacag ttactacagg agcaacagct      780
ccgggagcag gaagaatata aaaggcaact gctggcagag agacagaagc ggattgagca      840
gcagaaagaa cagaggcgac ggctagaaga gcaacaaagg agagagcggg aagctagaag      900
gcagcaggaa cgtgaacagc gaaggagaga acaagaagaa aagaggcgtc tagaggagtt      960
ggagagaagg cgcaaagaag aagaggagag gagacgggca gaagaagaaa agaggagagt     1020
tgaaagagaa caggagtata tcaggcgaca gctagaagag gagcagcggc acttggaagt     1080
ccttcagcag cagctgctcc aggagcaggc catgttactg gagtgccgat ggcgggagat     1140
ggaggagcac cggcaggcag agaggctcca gaggcagttg caacaagaac aagcatatct     1200
cctgtctcta cagcatgacc ataggaggcc gcacccgcag cactcgcagc agccgccacc     1260
accgcagcag gaaaggagca agccaagctt ccatgtctcc gagcccaaag cccactacga     1320
gcctgctgac cgagcgcgag aggtggaaga tagatttagg aaaactaacc acagctcccc     1380
tgaagcccag tctaagcaga caggcagagt attggagcca ccagtgcctt cccgatcaga     1440
gtctttttcc aatggcaact ccgagtctgt gcatcccgcc ctgcagagac cagcggagcc     1500
acagggttcc tgtgagaaca acatctcgct ccctgtttct gtcccgtcga gattccccac     1560
tgacaggcag tgggcagcag aatagccagg caggacagag aaactccacc agcagtattg     1620
agcccaggct tctgtgggag agagtggaga agctggtgcc cagacctggc agtggcagct     1680
cctcagggtc cagcaactca ggatcccagc ccgggtctca ccctgggtct cagagtggct     1740

```


ccggggaacg	cttcagagtg	agatcatcat	ccaagtctga	aggctctcca	tctcagcgcc	1800
tgaaaaatgc	agtgaaaaaa	cctgaagata	aaaaggaagt	tttcagaccc	ctcaagcctg	1860
ctgatctgac	cgacttggcc	aaagagcttc	gagcagtgga	agatgtacgg	ccacctcaca	1920
aagtaacgga	ctactcctca	tccagtgagg	agtcggggac	gacggatgag	gaggacgacg	1980
atgtggagca	ggaaggggct	gacgagtcca	cctcaggacc	agaggacacc	agagcagcgt	2040
catctctgaa	tttgagcaat	ggtgaaacgg	aatctgtgaa	aaccatgatt	gtccatgatg	2100
atgtagaaag	tgagccggcc	atgaccccat	ccaaggaggg	cactctaate	gtccgccaga	2160
ctcagtccgc	tagtagcaca	ctccagaaac	acaaatcttc	ctcctccttt	acacctttta	2220
tagacccag	attactacag	atttctccat	ctagcggaac	aacagtgaca	tctgtggtgg	2280
gattttctctg	tgatgggatg	agaccagaag	ccataaggca	agatcctacc	cggaaaggct	2340
cagtgggtcaa	tgtgaatcct	accaacacta	ggccacagag	tgacaccccg	gagattcgta	2400
aatacaagaa	gaggtttaac	tctgagattc	tgtgtgctgc	cttatgggga	gtgaatttgc	2460
tagtgggtac	agagagtggc	ctgatgctgc	tggacagaag	tggccaaggg	aagggtctatc	2520
ctcttatcaa	ccgaagacga	tttcaacaaa	tggacgtact	tgagggcttg	aatgtcttgg	2580
tgacaatatc	tggcaaaaag	gataagttac	gtgtctacta	tttgtcctgg	ttaagaaata	2640
aaatacttca	caatgatcca	gaagttgaga	agaagcaggg	atggacaacc	gtaggggatt	2700
tggaaggatg	tgtacattat	aaagttgtaa	aatatgaaag	aatcaaattt	ctgggtgattg	2760
ctttgaagag	ttctgtggaa	gtctatgcgt	gggcaccaaa	gccatatac	aaatttatgg	2820
cctttaagtc	atttgagaaa	ttggtacata	agccattact	ggtggatctc	actggtgagg	2880
aaggccagag	gttgaaagtg	atctatggat	cctgtgctgg	attccatgct	gttgatgtgg	2940
attcaggatc	agtctatgac	atttatctac	caacacatat	ccagtgtagc	atcaaaccac	3000
atgcaatcat	catcctcccc	aatacagatg	gaatggagct	tctgggtgtgc	tatgaagatg	3060
aggggggttta	tgtaaacaca	tatggaagga	tcaccaagga	tgtagttcta	cagtggggag	3120
agatgcctac	atcagtagca	tatattcgat	ccaatcagac	aatgggctgg	ggagagaagg	3180
ccatagagat	ccgatctgtg	gaaactggtc	acttgatgg	tgtgttcacg	cacaaaaggg	3240
ctcaaagact	aaaattcttg	tgtgaacgca	atgacaaggt	gttcctttgcc	tctgttcggt	3300
ctgggtggcag	cagtcagggt	tatttcatga	ccttaggcag	gacttctctt	ctgagctggt	3360
agaagcagtg	tgatccaggg	attactggcc	tccagagtct	tcaagatcct	gagaacttgg	3420
aattccttgt	aactggagct	cggagctgca	ccgagggcaa	ccaggacagc	tgtgtgtgca	3480
gacctcatgt	gttgggttct	ctccctcct	tcctgttct	cttatatacc	agtttatccc	3540
cattcttttt	ttttttctta	ctccaaaata	aatcaaggct	gcaatgcagc	tggtgctggt	3600

cagattct

3608

<210> 15

<211> 4266

<212> DNA

<213> Homo sapiens

<400> 15

caagtctata agggctgaca tgtaaaacg ggtcagttgg cagccatcaa agttatggat	60
gtcactgagg atgaagagga agaaatcaaa ctggagataa atatgctaaa gaaatactct	120
catcacagaa acattgcaac atattatggg gctttcatca aaaagagccc tccaggacat	180
gatgaccaac tctggcttgt tatggagttc tgtggggctg ggtccattac agaccttgtg	240
aagaacacca aagggaacac actcaaagaa gactggatcg cttacatctc cagagaaatc	300
ctgagggggac tggcacatct tcacattcat catgtgatcc accgggatat caagggccag	360
aatgtgttgc tgactgagaa tgcagaggtg aaacttgttg actttgggtg gagtgtctag	420
ctggacagga ctgtggggcg gagaaatagc ttcataggca ctccctactg gatggctcct	480
gaggtcacatg cctgtgatga gaaccagat gccacctatg attacagaag tgatctttgg	540
tcttgtggca ttacagccat tgagatggca gaaggtgctc cccctctctg tgacatgcat	600
ccaatgagag cactgtttct cattcccaga aaccctctc cccggctgaa gtcaaaaaaa	660
tggtcgaaga agtttttttag ttttatagaa ggggtgcctgg tgaagaatta catgcagcgg	720
ccctctacag agcagctttt gaaacatcct tttataaggg atcagccaaa tgaaaggcaa	780
gttagaatcc agcttaagga tcatatagat cgtaccagga agaagagagg cgagaaagat	840
gaaactgagt atgagtacag tgggagtgag gaagaagagg aggaagtgcc tgaacaggaa	900
ggagagccaa gttccattgt gaacgtgcct ggtgagtcta ctcttcgccg agatttcctg	960
agactgcagc aggagaacaa ggaacgttcc gaggtctctc ggagacaaca gttactacag	1020
gagcaacagc tccgggagca ggaagaatat aaaaggcaac tgctggcaga gagacagaag	1080
cggattgagc agcagaaaaga acagaggcga cggctagaag agcaacaaag gagagagcgg	1140
gaagctagaa ggcagcagga acgtgaacag cgaaggagag aacaagaaga aaagaggcgt	1200
ctagaggagt tggagagaag gcgcaaagaa gaagaggaga ggagacgggc agaagaagaa	1260
aagaggagag ttgaaagaga acaggagtat atcaggcgac agctagaaga ggagcagcgg	1320
cacttggaag tccttcagca gcagctgctc caggagcagg ccatgttact gcatgaccat	1380
aggaggccgc acccgagca ctgcagcag cgcaccac cgagcagga aaggagcaag	1440
ccaagcttcc atgctcccg gcccaggcc cactacgagc ctgctgaccg agcgcgagag	1500
gtggaagata gatttaggaa aactaaccac agctcccctg aagcccagtc taagcagaca	1560
ggcagagtat tggagccacc agtgccttcc cgatcagagt ctttttccaa tggcaactcc	1620

gagtctgtgc atccccccct gcagagacca gcggagccac aggttcctgt gagaacaaca 1680
 tctcgtctccc ctgttctgtc ccgtcgagat tccccactgc agggcagtgg gcagcagaat 1740
 agccaggcag gacagagaaa ctccaccagc agtattgagc ccaggcttct gtgggagaga 1800
 gtggagaagc tgggtgccag acctggcagt ggcagctcct cagggtccag caactcagga 1860
 tcccagcccc ggtctcaccc tgggtctcag agtggctccg gggaacgctt cagagtgaga 1920
 tcatcatcca agtctgaagg ctctccatct cagcgcctgg aaaatgcagt gaaaaaacct 1980
 gaagataaaa aggaagtttt cagaccctc aagcctgctg gcgaagtgga tctgaccgca 2040
 ctggccaaag agcttcgagc agtggagat gtacggccac ctcaaaagt aacggactac 2100
 tctcatcca gtgaggagtc ggggacgacg gatgaggagg acgacgatgt ggagcaggaa 2160
 ggggctgacg agtccacctc aggaccagag gacaccagag cagcgtcatc tctgaatttg 2220
 agcaatgggtg aaacggaatc tgtgaaaacc atgattgtcc atgatgatgt agaaagttag 2280
 ccggccatga ccccatcaa ggagggcact ctaatcgtcc gccagactca gtccgctagt 2340
 agcacactcc agaaacacaa atcttctctc tcctttacac cttttataga ccccagatta 2400
 ctacagattt ctccatctag cggaacaaca gtgacatctg tgggtgggatt ttcctgtgat 2460
 gggatgagac cagaagccat aaggcaagat cctaccgga aaggctcagt ggtcaatgtg 2520
 aatctacca aactaggcc acagagtac accccggaga ttcgtaaata caagaagagg 2580
 tttaactctg agattctgtg tgctgcctta tggggagtga atttgctagt gggtagagag 2640
 agtggcctga tgctgctgga cagaagtggc caagggaagg tctatcctct tatcaaccga 2700
 agacgatttc aacaaatgga cgtacttgag ggcttgaatg tcttggtgac aatatctggc 2760
 aaaaaggata agttacgtgt ctactatttg tcctgggttaa gaaataaaat acttcacaat 2820
 gatccagaag ttgagaagaa gcagggatgg acaaccgtag gggatttgga aggatgtgta 2880
 cattataaag ttgtaaaata tgaaagaatc aaatttctgg tgattgcttt gaagagttct 2940
 gtggaagtct atgcgtgggc accaaagcca tatcacaat ttatggcctt taagtcattt 3000
 ggagaatttg tacataagcc attactggtg gatctcactg ttgaggaagg ccagagggtg 3060
 aaagtgatct atggatcctg tgctggattc catgctgttg atgtggattc aggatcagtc 3120
 tatgacattt atctaccaac acatatccag tgtagcatca aaccccatgc aatcatcatc 3180
 ctccccata cagatggaat ggagcttctg gtgtgctatg aagatgaggg ggtttatgta 3240
 aacacatatg gaaggatcac caaggatgta gttctacagt ggggagagat gcctacatca 3300
 gtagcatata ttcgatcaa tcagacaatg ggctggggag agaaggccat agagatccga 3360
 tctgtgaaa ctggtcactt ggatggtgtg ttcatgcaca aaagggtcga aagactaaaa 3420
 ttcttgtgtg aacgcaatga caagggttc tttgcctctg ttcggtctgg tggcagcagt 3480

cagggtttatt tcatgacctt aggcaggact tctcttctga gctggtagaa gcagtgtgat 3540
 ccagggatta ctggcctcca gagtcttcaa gatcctgaga acttggaatt ccttgtaact 3600
 ggagctcgga gctgcaccga gggcaaccag gacagctgtg tgtgcagacc tcatgtgttg 3660
 gggtctctcc cctccttcc tttcctctta tataccagtt tatccccatt cttttttttt 3720
 ttcttactcc aaaataaatc aaggctgcaa tgcagctggg gctgttcaga ttctaccatc 3780
 aggtgctata agtgtttggg attgagcatc atactggaaa gcaaacacct ttcctccagc 3840
 tccagaattc cttgtctctg aatgactctg tcttgtgggt gtctgacagt ggcgacgatg 3900
 aacatgccgt tggttttatt ggcagtgggc acaaggaggt gagaagtggg ggtaaaagga 3960
 gcggagtgtc gaagcagaga gcagatttaa tatagtaaca ttaacagtgt atttaattga 4020
 catttctttt ttgtaatgtg acgatatgtg gacaaagaag aagatgcagg ttaagaagt 4080
 taatatttat aaaatgtgaa agacacagtt actaggataa cttttttgtg ggtggggctt 4140
 gggagatggg gtgggggtggg ttaaggggtc ccattttgtt tctttggatt tgggggtggg 4200
 gtcttgcca agaactcagt catttttctg tgtaccaggt tgcctaaatc atgtgcagat 4260
 ggttct 4266

<210> 16
 <211> 3448
 <212> DNA
 <213> Homo sapiens

<400> 16
 gttttttagt ttatagaag ggtgcctggt gaagaattac atgcagcggc cctctacaga 60
 gcagcttttg aaacatcctt ttataagga tcagccaaat gaaaggcaag ttagaatcca 120
 gcttaaggat catatagatc gtaccaggaa gaagagaggc gagaaagatg aaactgagta 180
 tgagtacagt gggagtgagg aagaagagga ggaagtgcct gaacaggaag gagagccaag 240
 ttccattgtg aacgtgcctg gtgagtctac tcttcgccga gatttcctga gactgcagca 300
 ggagaacaag gaacgttccg aggtctctcg gagacaacag ttactacagg agcaacagct 360
 ccgggagcag gaagaatata aaaggcaact gctggcagag agacagaagc ggattgagca 420
 gcagaaagaa cagaggcgac ggctagaaga gcaacaaagg agagagcggg aagctagaag 480
 gcagcaggaa cgtgaacagc gaaggagaga acaagaagaa aagaggcgtc tagaggagtt 540
 ggagagaagg cgcaaagaag aagaggagag gagacgggca gaagaagaaa agaggagagt 600
 tgaaagagaa caggagtata tcaggcgaca gctagaagag gagcagcggc acttggaagt 660
 ccttcagcag cagctgctcc aggagcaggc catgttactg gagtgccgat ggcgggagat 720
 ggaggagcac cggcaggcag agaggctcca gaggcagttg caacaagaac aagcatatct 780

cctgtctcta cagcatgacc ataggaggcc gcacccgcag cactcgcagc agccgccacc	840
accgcagcag gaaaggagca agccaagctt ccatgctccc gagcccaaag cccactacga	900
gcctgtgac cgagcgcgag aggtggaaga tagatttagg aaaactaacc acagctcccc	960
tgaagcccag tctaagcaga caggcagagt attggagcca ccagtgcctt cccgatcaga	1020
gtctttttcc aatggcaact ccgagtctgt gcacccgcc ctgcagagac cagcggagcc	1080
acaggtacag tggccccacc tggcatctct caagaacaat gtttcccctg tctcgcgac	1140
ccattccttc agtgaccctt ctcccaaatt tgcacaccac catcttcgtt ctcaggaccc	1200
atgtccacct tccgcagtg aggtgctcag tcagagctct gactctaagt cagaggcgcc	1260
tgaccctacc caaaaggctt ggtctagatc agacagtgcag gaggtgcctc caagggttcc	1320
tgtgagaaca acatctcgct cccctgttct gtcccgctga gattccccac tgcagggcag	1380
tgggcagcag aatagccagg caggacagag aaactccacc agcagtattg agcccaggct	1440
tctgtgggag agagtggaga agctggtgcc cagacctggc agtggcagct cctcagggtc	1500
cagcaactca ggatcccagc ccgggtctca ccctgggtct cagagtggct ccggggaacg	1560
cttcagagtg agatcatcat ccaagtctga aggctctcca tctcagcgcc tggaaaatgc	1620
agtgaaaaaa cctgaagata aaaaggaagt tttcagacct ctcaagcctg ctggcgaagt	1680
ggatctgacc gcactggcca aagagcttcg agcagtggaa gatgtacggc cacctcacia	1740
agtaacggac tactcctcat ccagtgagga gtcggggacg acggatgagg aggacgacga	1800
tgtggagcag gaaggggctg acgagtccac ctcaggacca gaggacacca gagcagcgtc	1860
atctctgaat ttgagcaatg gtgaaacgga atctgtgaaa accatgattg tccatgatga	1920
tgtagaaagt gagccggcca tgaccccatc caaggagggc actctaactg tccgccagac	1980
tcagtccgct agtagcacac tccagaaaca caaatcttcc tctccttta caccttttat	2040
agaccccgaga ttactacaga tttctccatc tagcggaaaca acagtacat ctgtgggtggg	2100
atcttctgt gatgggatga gaccagaagc cataaggcaa gatcctacct ggaaaggctc	2160
agtgggtcaat gtgaatccta ccaacactag gccacagagt gacaccccg agattcgtaa	2220
atacaagaag aggtttaact ctgagattct gtgtgctgcc ttatggggag tgaatttgc	2280
agtgggtaca gagagtggcc tgatgctgct ggacagaagt ggccaaggga aggtctatcc	2340
tcttatcaac cgaagacgat ttcaacaaat ggacgtactt gagggcttga atgtcttgg	2400
gacaatatct ggcaaaaagg ataagttacg tgtctactat ttgtcctggg taagaaataa	2460
aatacttcac aatgatccag aagttgagaa gaagcaggga tggacaaccg taggggattt	2520
ggaaggatgt gtacattata aagttgtaaa atatgaaaga atcaaatctc tgggtgattgc	2580
tttgaagagt tctgtggaag tctatgcgtg ggcaccaaag ccataacaca aatttatggc	2640

ctttaagtca tttggagaat tggtagataa gccattactg gtggatctca ctgttgagga	2700
agccagagg ttgaaagtga tctatggatc ctgtgctgga ttccatgctg ttgatgtgga	2760
ttcaggatca gtctatgaca tttatctacc aacacatatc cagtgtagca tcaaacccca	2820
tgcaatcatc atcctcccca atacagatgg aatggagctt ctggtgtgct atgaagatga	2880
gggggtttat gtaaacacat atggaaggat ccaccaagga tgtagttcta cagtggggag	2940
agatgcctac atcagtagca tatattcgat ccaatcagac aatgggctgg ggagagaagg	3000
ccatagagat ccgatctgtg gaaactggtc acttggatgg tgtgttcatt cacaaaagg	3060
ctcaaagact aaaattcttg tgtgaacgca atgacaagggt gttctttgcc tctgttcggt	3120
ctggtggcag cagtcagggt tatttcattga ccttaggcag gacttctctt ctgagctggt	3180
agaagcagtg tgatccagggt attactggcc tccagagtct tcaagatcct gagaacttgg	3240
aattccttgt aactggagct cggagctgca ccgagggcaa ccaggacagc tgtgtgtgca	3300
gacctcatgt gttgggttct ctcccctcct tctgttcctt cttatatacc agtttatccc	3360
cattcttttt tttttctta ctccaaaata aatcaaggct gcaatgcagc tgggtgctgt	3420
cagattctaa aaaaaaaaaa aaaaaaaaaa	3448

<210> 17

<211> 2667

<212> DNA

<213> Homo sapiens

<400> 17

atataaaagg caactgctgg cagagagaca gaagcggatt gagcagcaga aagaacagag	60
gcgacggcta gaagagcaac aaaggagaga gcgggaagct agaaggcagc aggaacgtga	120
acagcgaagg agagaacaag aagaaaagag gcgtctagag gagttggaga gaaggcgcaa	180
agaagaagag gagaggagac gggcagaaga agaaaagagg agagttgaaa gagaacagga	240
gtatatcagg cgacagctag aagaggagca acggcacttg gaagtccttc agcagcagct	300
gctccaggag caggccatgt tactggagtg ccgatggcgg gagatggagg agcaccggca	360
ggcagagagg ctccagaggc agttgcaaca agaacaagca tatctcctgt ctctacagca	420
tgaccatagg aggccgcacc cgcagcactc gcagcagccg ccaccaccgc agcaggaaag	480
gagcaagcca agcttccatg ctcccagacc caaagccac tacgagcctg ctgaccgagc	540
gcgagagggt cctgtgagaa caacatctcg ctcccctgtt ctgaccgctc gagattcccc	600
actgcagggc agtgggcagc agaatagcca ggcaggacag agaaactcca ccagtattga	660
gcccaggctt ctgtgggaga gagtggagaa gctggtgccc agacctggca gtggcagctc	720
ctcagggctc agcaactcag gatccagcc cgggtctcac cctgggtctc agagtggctc	780
cggggaacgc ttcagagtga gatcatcatc caagtctgaa ggctctccat ctcagcgcct	840

ggaaaatgca gtgaaaaaac ctgaagataa aaaggaagtt ttcagacccc tcaagcctgc	900
tgatctgacc gcactggcca aagagcttcg agcagtggaa gatgtacggc cacctcacia	960
agtaacggac tactcctcat ccagtgagga gtcggggacg acggatgagg aggacgacga	1020
tgtggagcag gaaggggctg acgagtccac ctcaggacca gaggacacca gagcagcgtc	1080
atctctgaat ttgagcaatg gtgaaacgga atctgtgaaa accatgattg tccatgatga	1140
tgtagaaaagt gagccggcca tgaccccatc caaggagggc actctaatac tccgccagac	1200
tcagtccgct agtagcacac tccagaaaca caaatcttcc tctccttta caccttttat	1260
agacccaga ttactacaga tttctccatc tagcggaaaca acagtgacat ctgtggtggg	1320
atcttctgt gatgggatga gaccagaagc cataaggcaa gatcctacc ggaaaggctc	1380
agtggtcaat gtgaatccta ccaacactag gccacagagt gacaccccg agattcgtaa	1440
atacaagaag aggtttaact ctgagattct gtgtgctgcc ttatggggag tgaatttgc	1500
agtggttaca gagagtggcc tgatgctgct ggacagaagt ggccaaggga aggtctatcc	1560
tcttatcaac cgaagacgat ttcaacaaat ggacgtactt gagggcttga atgtcttgg	1620
gacaatatct ggcaaaaagg ataagttacg tgtctactat ttgtcctggt taagaaataa	1680
aatacttcac aatgatccag aagttgagaa gaagcaggga tggacaaccg taggggattt	1740
ggaaggatgt gtacattata aagttgtaa atatgaaaga atcaaatttc tggtgattgc	1800
tttgaagagt tctgtggaag tctatgctg ggacacaaag ccatatcaca aatttatggc	1860
ctttaagtca tttggagaat tggtagataa gccattactg gcggatctca ctgttgagga	1920
aggccagagg ttgaaagtga tctatggatc ctgtgctgga ttccatgctg ttgatgtgga	1980
ttcaggatca gtcctatgaca tttatctacc aacacatc cagtgtagca tcaaacccca	2040
tgcaatcatc atcctcccca atacagatgg aatggagctt ctgggtgtgct atgaagatga	2100
gggggtttat gtaaacacat atggaaggat caccaaggat gtagttctac agtggggaga	2160
gatgcctaca tcagtagcat atattcgatc caatcagaca atgggctggg gagagaaggc	2220
catagagatc cgatctgtgg aaactggta cttggatggt gtgttcatgc aaaaagggc	2280
tcaaagacta aaattcttgt gtgaacgcaa tgacaagggt ttctttgcct ctgttcggtc	2340
tgggtggcagc agtcaggttt atttcatgac cttaggcagg acttctcttc tgagctggta	2400
gaagcagtgt gatccaggga ttactggcct ccagagtctt caagatcctg agaacttgga	2460
attccttgta actggagctc ggagctgcac cgagggaac caggacagct gtgtgtgcag	2520
acctcatgtg ttgggtctc tccctcctt cctgttcctc ttatatacca gtttatcccc	2580
attctttttt ttttcttac tccaaaataa atcaaggctg caatgcagct ggtgctgttc	2640
agattctaaa aaaaaaaaaa aaaaaa	2667

<210> 18
 <211> 2034
 <212> DNA
 <213> Homo sapiens

<400> 18
 agcagaatag ccaggcagga cagagaaact ccaccagcag tattgagccc aggcttctgt 60
 gggagagagt ggagaagctg gtgcccagac ctggcagtgg cagctcctca gggccagca 120
 actcaggatc ccagcccggg tctcaccctg ggtctcagag tggctccggg gaacgcttca 180
 gagtgagatc atcatccaag tctgaaggct ctccatctca gcgcctggaa aatgcagtga 240
 aaaaacctga agataaaaag gaagttttca gaccctcaa gcctgctgat ctgaccgcac 300
 tggccaaaga gcttcgagca gtggaagatg tacggccacc tcacaaagta acggactact 360
 cctcatccag tgaggagtgc gggacgacgg atgaggagga cgacgatgtg gacgaggaag 420
 gggctgacga gtccacctca ggaccagagg acaccagagc agcgctcatct ctgaatttga 480
 gcaatggtga aacggaatct gtgaaaacca tgattgtcca tgatgatgta gaaagtgagc 540
 cggccatgac cccatccaag gagggcactc taatcgctcg ccagactcag tccgctagta 600
 gcacactcca gaaacacaaa tcttcctcct cctttacacc ttttatagac cccagattac 660
 tacagatttc tccatctagc ggaacaacag tgacatctgt ggtgggattt tcctgtgatg 720
 ggatgagacc agaagccata aggcaagatc ctaccggaag aggctcagtg gtcaatgtga 780
 atcctacca cactaggcca cagagtgaca ccccgagat tcgtaaatac aagaagaggt 840
 ttaactctga gattctgtgt gctgccttat ggggagtga tttgctagtg ggtacagaga 900
 gtggcctgat gctgctggac agaagtggcc aagggaaggt ctatcctctt atcaaccgaa 960
 gacgatttca acaaatggac gtacttgagg gcttgaatgt cttggtgaca atatctggca 1020
 aaaaggataa gttacgtgtc tactatttgt cctgggttaag aaataaaata cttcacaatg 1080
 atccagaggt tgagaagaag cagggatgga caaccgtagg ggatttggaa ggatgtgtac 1140
 attataaagt tgtaaaatat gaaagaatca aatttctggt gattgctttg aagagttctg 1200
 tggaagtcta tgcgtgggca ccaaagccat atcacaaatt tatggccttt aagtcatttg 1260
 gagaattggt acataagcca ttactggtgg atctcactgt tgaggaaggc cagagggtga 1320
 aagtgatcta tggatcctgt gctggattcc atgctgttga tgtggattca ggatcagtct 1380
 atgacattta tctaccaaca catatccagt gtagcatcaa accccatgca atcatcatcc 1440
 tccccaatag agatggaatg gagcttctgg tgtgctatga agatgagggg gtttatgtaa 1500
 acacatatgg aaggatcacc aaggatgtag ttctacagtg gggagagatg cctacatcag 1560
 tagcatatat tcgatccaat cagacaatgg gctggggaga gaaggccata gagatccgat 1620

ctgtggaaac tggtcacttg gatggtgtgt tcatgcacaa aagggtcaa agactaaaat 1680
tcttgtgtga acgcaatgac aaggtgttct ttgcctctgt tcggtctggt ggcagcagtc 1740
aggtttattt catgacctta ggcaggactt ctcttctgag ctggtagaag cagtgtgatc 1800
cagggattac tggcctccag agtcttcaag atcctgagaa cttggaattc cttgtaactg 1860
gagctcggag ctgcaccgag ggcaaccagg acagctgtgt gtgcagacct catgtgttgg 1920
gttctctccc ctcttctctg ttctcttat ataccagttt atccccattc tttttttttt 1980
ttcttactcc aaaataaatc aaggctgcaa tgcagctggt gctgttcaga ttct 2034

<210> 19

<211> 4284

<212> DNA

<213> Homo sapiens

<400> 19

cacagagcga cagagacatt tattgttatt tgttttttgg tggcaaaaag ggaaaatggc 60
gaacgactcc cctgcaaaaa gtctggtgga catcgacctc tcctccctgc gggatcctgc 120
tgggattttt gagctggtgg aagtgggtgg aaatggcacc tatggacaag tctataaggg 180
tcgacatggt aaaacgggtc agttggcagc catcaaagtt atggatgtca ctgaggatga 240
agaggaagaa atcaaaactgg agataaatat gctaaagaaa tactctcatc acagaaacat 300
tgcaacatat tatggtgctt tcatcaaaaa gagccctcca ggacatgatg accaactctg 360
gcttgttatg gagttctgtg gggctgggtc cattacagac cttgtgaaga acaccaaagg 420
gaacacactc aaagaagact ggatcgctta catctccaga gaaatcctga ggggactggc 480
acatcttcac attcatcatg tgattcaccg ggatatcaag ggccagaatg tgttgctgac 540
tgagaatgca gaggtgaaac ttgttgactt tgggtgtgagt gctcagctgg acaggactgt 600
ggggcgagaa aatacgttca taggcactcc ctactggatg gctcctgagg tcatcgctg 660
tgatgagaac ccagatgcca cctatgatta cagaagtgat ctttggctct gtggcattac 720
agccattgag atggcagaag gtgctcccc tctctgtgac atgcatccaa tgagagcact 780
gtttctcatt ccagaaaacc ctctccccg gctgaagtca aaaaaatggt cgaagaagtt 840
ttttagtttt atagaagggt gcctggtgaa gaattacatg cagcgccct ctacagagca 900
gcttttgaaa catcctttta taagggatca gccaaatgaa aggcaagtta gaatccagct 960
taaggatcat atagatcgta ccaggaagaa gagaggcgag aaagatgaaa ctgagtatga 1020
gtacagtggg agtgaggaag aagaggagga agtgcctgaa caggaaggag agccaagttc 1080
cattgtgaac gtgcctggtg agtctactct tcgccgagat ttctgagac tgcagcagga 1140
gaacaaggaa cgttccgagg ctcttcggag acaacagtta ctacaggagc aacagctccg 1200
ggagcaggaa gaatataaaa ggcaactgct ggcagagaga cagaagcgga ttgagcagca 1260

gaaagaacag aggcgacggc tagaagagca acaaaggaga gagcgggaag ctagaaggca 1320
 gcaggaacgt gaacagcgaa ggagagaaca agaagaaaag aggcgtctag aggagttgga 1380
 gagaaggcgc aaagaagaag aggagaggag acgggcagaa gaagaaaaga ggagagttga 1440
 aagagaacag gagtatatca ggcgacagct agaagaggag cagcggcact tggaaagtct 1500
 tcagcagcag ctgctccagg agcaggccat gttactggag tgccgatggc gggagatgga 1560
 ggagcaccgg caggcagaga ggctccagag gcagttgcaa caagaacaag catatctcct 1620
 gtctctacag catgaccata ggaggccgca cccgcagcac tcgcagcagc cgccaccacc 1680
 gcagcaggaa aggagcaagc caagcttcca tgctcccag cccaaagccc actacgagcc 1740
 tgctgaccga gcgcgagagg tggaagatag atttaggaaa actaaccaca gctcccctga 1800
 agcccagtct aagcagacag gcagagtatt ggagccacca gtgccttccc gatcagagtc 1860
 tttttccaat ggcaactccg agtctgtgca tcccgcctg cagagaccag cggagccaca 1920
 ggtacagtgg tcccacctgg catctctcaa gaacaatgtt tcccctgtct cgcatccca 1980
 ttcttctcag gaccttctc ccaaatttgc acaccacat cttcgttctc aggacctatg 2040
 tccaccttcc cgcagtgagg tgctcagtc gagctctgac tctaagtcag aggcgcctga 2100
 ccctacccaa aaggcttggt ctagatcaga cagtgcagag gtgcctccaa gggttcctgt 2160
 gagaacaaca tctcgctccc ctgttctgtc ccgtcgagat tccccactgc agggcagtg 2220
 gcagcagaat agccaggcag gacagagaaa ctccaccagc agtattgagc ccaggcttct 2280
 gtgggagaga gtggagaagc tgggtcccag acctggcagt ggcagctcct cagggtccag 2340
 caactcagga tcccagcccg ggtctcacc tggttctcag agtggctccg gggaacgctt 2400
 cagagtgaga tcatcatcca agtctgaagg ctctccatct cagcgctgg aaaatgcagt 2460
 gaaaaaacct gaagataaaa aggaagtttt cagaccctc aagcctgctg gcgaagtgga 2520
 tctgaccgca ctggccaaag agcttcgagc agtggagat gtacggccac ctcaaaagt 2580
 aacggactac tcctcatcca gtgaggagtc ggggacgacg gatgaggagg acgacgatgt 2640
 ggagcaggaa ggggctgacg agtccacctc aggaccagag gacaccagag cagcgtcatc 2700
 tctgaatttg agcaatggtg aaacggaatc tgtgaaaacc atgattgtcc atgatgatgt 2760
 agaaagtgag ccggccatga ccccatccaa ggagggcact ctaatcgctc gccagactca 2820
 gtccgctagt agcacactcc agaaacacaa atcttctctc tcctttacac cttttataga 2880
 cccagatta ctacagattt ctccatctag cggaacaaca gtgacatctg tgggtgggatt 2940
 ttctgtgat gggatgagac cagaagccat aaggcaagat cctaccgga aaggctcagt 3000
 ggtcaatgtg aatcctacca aactaggcc acagagtgc accccggaga ttcgtaaata 3060
 caagaagagg ttttaactctg agattctgtg tgctgcctta tggggagtga atttgctagt 3120

gggtagacagag agtggcctga tgctgctgga cagaagtggc caaggggaagg tctatcctct 3180
 tatcaaccga agacgatttc aacaaatgga cgtacttgag ggcttgaatg tcttggtgac 3240
 aatatctggc aaaaaggata agttacgtgt ctactatttg tcctgggtta gaaataaaat 3300
 acttcacaat gatccagaag ttgagaagaa gcagggatgg acaaccgtag gggatttgga 3360
 aggatgtgta cattataaag ttgtaaaata tgaaagaatc aaatttctgg tgattgcttt 3420
 gaagagttct gtggaagtct atgcgtgggc accaaagcca tatcacaat ttatggcctt 3480
 taagtcattt ggagaattgg tacataagcc attactgggtg gatctcactg ttgaggaagg 3540
 ccagagggtg aaagtgatct atggatcctg tgctggatc catgctgttg atgtggatc 3600
 aggatcagtc tatgacattt atctaccaac acatatccag tgtagcatca aaccccatgc 3660
 aatcatcatc ctccccaata cagatggaat ggagcttctg gtgtgctatg aagatgaggg 3720
 ggtttatgta aacacatatg gaaggatcac caaggatgta gttctacagt ggggagagat 3780
 gcctacatca gtagcatata ttgatccaa tcagacaatg ggctggggag agaaggccat 3840
 agagatccga tctgtggaaa ctggtcactt ggatgggtgtg ttcatgcaca aaagggctca 3900
 aagactaaaa ttcttgtgtg aacgcaatga caaggtgttc ttgcctctg ttcgggtctgg 3960
 tggcagcagt caggtttatt tcatgacctt aggaggact tctcttctga gctggtagaa 4020
 gcagtgtgat ccagggatta ctggcctcca gagtcttcaa gatcctgaga acttgggaatt 4080
 ccttgtaact ggagctcgga gctgcaccga gggcaaccag gacagctgtg tgtgcagacc 4140
 tcatgtgttg ggttctctcc cctccttctt gttcctctta tataccagtt tatccccatt 4200
 cttttttttt ttcttactcc aaaataaatc aaggtgcaa tgcagctggg gctgttcaga 4260
 ttctaaaaaa aaaaaaaaaa aaaa 4284

<210> 20

<211> 3940

<212> DNA

<213> Homo sapiens

<400> 20

cacagagcga cagagacatt tattgttatt tggttttttg tggcaaaaag ggaaaatggc 60
 gaacgactcc cctgcaaaaa gtctggtgga catcgacctc tcctcctgc gggatcctgc 120
 tgggattttt gagctgggtg aagtgggttg aaatggcacc tatggacaag tctataaggg 180
 tcgacatgtt aaaacgggtc agttggcagc catcaaagtt atggatgtca ctgaggatga 240
 agaggaagaa atcaaactgg agataaatat gctaaagaaa tactctcatc acagaaacat 300
 tgcaacatat tatggtgctt tcatcaaaaa gagccctcca ggacatgatg accaactctg 360
 gcttggtatg gagttctgtg gggctgggtc cattacagac cttgtgaaga acaccaaagg 420

gaacacactc aaagaagact ggatcgctta catctccaga gaaatcctga ggggactggc	480
acatcttcac attcatcatg tgattcaccg ggatatcaag ggccagaatg tgttgctgac	540
tgagaatgca gaggtgaaac ttgttgactt tgggtgtgagt gctcagctgg acaggactgt	600
ggggcggaga aatacgttca taggcactcc ctactggatg gtcctgagg tcatcgccctg	660
tgatgagaac ccagatgcca cctatgatta cagaagtgat ctttggtctt gtggcattac	720
agccattgag atggcagaag gtgctcccc tctctgtgac atgcatcaa tgagagcact	780
gtttctcatt ccagaaaacc ctctccccc gctgaagtca aaaaaatggc cgaagaagtt	840
ttttagtttt atagaagggc gcctgggtgaa gaattacatg cagcggccct ctacagagca	900
gcttttgaaa catcctttta taagggatca gccaaatgaa aggcaagtta gaatccagct	960
taaggatcat atagatcgta ccaggaagaa gagaggcgag aaagatgaaa ctgagtatga	1020
gtacagtggg agtgaggaag aagaggagga agtgcctgaa caggaaggag agccaagttc	1080
cattgtgaac gtgcctggtg agtctactct tcgccgagat ttcctgagac tgcagcagga	1140
gaacaaggaa cgttccgagg ctcttcggag acaacagtta ctacaggagc aacagctccg	1200
ggagcaggaa gaatataaaa ggcaactgct ggcagagaga cagaagcgga ttgagcagca	1260
gaaagaacag aggcgacggc tagaagagca acaaaggaga gagcgggaag ctagaaggca	1320
gcaggaacgt gaacagcgaa ggagagaaca agaagaaaag aggcgtctag aggagttgga	1380
gagaaggcgc aaagaagaag aggagaggag acgggcagaa gaagaaaaga ggagagtga	1440
aagagaacag gagtatatca ggcgacagct agaagaggag cagcggcact tggaagtcc	1500
tcagcagcag ctgctccagg agcaggccat gttactgcat gaccatagga ggccgcaccc	1560
gcagcactcg cagcagccgc caccaccgca gcaggaaagg agcaagccaa gcttccatgc	1620
tcccgagccc aaagcccact acgagcctgc tgaccgagcg cgagaggtgg aagatagatt	1680
taggaaaact aaccacagct ccctgaagc ccagtctaag cagacaggca gagtattgga	1740
gccaccagtg ctttcccgat cagagtcttt ttccaatggc aactccgagt ctgtgcatcc	1800
cgccctgcag agaccagcgg agccacaggt tcctgtgaga acaacatctc gctcccctgt	1860
tctgtcccgt cgagattccc cactgcaggg cagtgggcag cagaatagcc aggcaggaca	1920
gagaaactcc accagcagta ttgagcccag gcttctgtgg gagagagtgg agaagctgg	1980
gcccagacct ggcagtggca gtcctcagg gtccagcaac tcaggatccc agcccgggtc	2040
tcaccctggg tctcagagtg gctccgggga acgcttcaga gtgagatcat catccaagtc	2100
tgaaggctct ccatctcagc gcctggaaaa tgcagtgaaa aaacctgaag ataaaaagga	2160
agttttcaga ccctcaagc ctgctggcga agtggatctg accgcactgg ccaaagagct	2220
tcgagcagtg gaagatgtac ggccacctca caaagtaacg gactactcct catccagtga	2280

ggagtcgggg acgacggatg aggaggacga cgatgtggag caggaagggg ctgacgagtc 2340
 cacctcagga ccagaggaca ccagagcagc gtcattctctg aatttgagca atgggtgaaac 2400
 ggaatctgtg aaaaccatga ttgtccatga tgatgtagaa agtgagccgg ccatgacccc 2460
 atccaaggag ggcactctaa tcgtccgcca gactcagtc gctagtagca cactccagaa 2520
 acacaaatct tctctctctt ttacaccttt tatagacccc agattactac agatttctcc 2580
 atctagcggg acaacagtga catctgtggt gggattttcc tgtgatggga tgagaccaga 2640
 agccataagg caagatccta cccggaaagg ctccagtggtc aatgtgaatc ctaccaacac 2700
 taggccacag agtgacaccc cggagattcg taaatacaag aagagggtta actctgagat 2760
 tctgtgtgct gccttatggg gagtgaattt gctagtgggt acagagagtg gcctgatgct 2820
 gctggacaga agtggccaag ggaagggtcta tctctttatc aaccgaagac gatttcaaca 2880
 aatggacgta cttgagggct tgaatgtctt ggtgacaata tctggcaaaa aggataagtt 2940
 acgtgtctac tatttgcctt ggttaagaaa taaaatactt cacaatgac cagaagttga 3000
 gaagaagcag ggatggacaa ccgtagggga tttggaagga tgtgtacatt ataaagttgt 3060
 aaaatatgaa agaatcaaat ttctgggtgat tgctttgaag agttctgtgg aagtctatgc 3120
 gtgggcacca aagccatatc acaaatttat ggcttttaag tcatttggag aattggtaca 3180
 taagccatta ctgggtggatc tcactgttga ggaagggcag aggttgaaag tgatctatgg 3240
 atcctgtgct ggattccatg ctgttgatgt ggattcagga tcagtctatg acatttatct 3300
 accaacacat atccagtga gcatcaaacc ccatgcaatc atcatcctcc ccaatacaga 3360
 tggaatggag cttctggtgt gctatgaaga tgaggggggt tatgtaaaca catatggaag 3420
 gatcaccaag gatgtagttc tacagtgggg agagatgcct acatcagtag catatatctg 3480
 atccaatcag acaatgggct ggggagagaa ggccatagag atccgatctg tggaaactgg 3540
 tcacttggat ggtgtgttca tgcacaaaag ggctcaaaga ctaaaattct tgtgtgaacg 3600
 caatgacaag gtgttctttg cctctgttcg gtctgggtggc agcagtcagg tttatttcat 3660
 gaccttaggc aggacttctc ttctgagctg gtagaagcag tgtgatccag ggattactgg 3720
 cctccagagt cttcaagatc ctgagaactt ggaattcctt gtaactggag ctccggagctg 3780
 caccgagggc aaccaggaca gctgtgtgtg cagacctcat gtgttgggtt ctctccctc 3840
 cttctgttct ctcttatata ccagtttate ccatttcttt tttttttct tactccaaaa 3900
 taaatcaagg ctgcaatgca gctgggtgctg ttcagattct 3940

<210> 21
 <211> 3888
 <212> DNA
 <213> Homo sapiens

<400> 21
 atgggcgacc cagccccgc ccgcagcctg gacgacatcg acctgtccgc cctgcgggac 60
 cctgctggga tctttgagct tgtggagggtg gtcggcaatg gaacctacgg acagggtgtac 120
 aagggtcggc atgtcaagac ggggcagctg gctgccatca aggtcatgga tgtcacggag 180
 gacgaggagg aagagatcaa acaggagatc aacatgctga aaaagtactc tcaccaccgc 240
 aacatcgcca cctactacgg agccttcac cagaagagcc ccccgggaaa cgatgaccag 300
 ctctggctgg tgatggagtt ctgtggtgct ggttcagtga ctgacctgg aaagaacaca 360
 aaaggcaacg ccctgaagga ggactgtatc gcctatatct gcaggagat cctcaggggt 420
 ctggcccatc tccatgcca caagtgatc catcgagaca tcaaggggca gaatgtgctg 480
 ctgacagaga atgctgaggt caagctagt gattttgggg tgagtgtca gctggaccgc 540
 accgtgggca gacggaacac ttctattggg actccctact ggatggctcc agagggtcatc 600
 gcctgtgatg agaaccctga tgccacctat gattacagga gtgatattt gtctctagga 660
 atcacagcca tcgagatggc agaggagacc cccctctgt gtgacatgca cccatgcga 720
 gccctcttcc tcattcctcg gaaccctccg ccaggtcga agtccaagaa gtggtctaag 780
 aagttcattg acttcattga cacatgtctc atcaagactt acctgagccg cccaccacg 840
 gagcagctac tgaagtttcc ctctatccg gaccagcca cggagcggca ggtccgcac 900
 cagcttaagg accacattga ccgatcccg aagaagcggg gtgagaaaga ggagacagaa 960
 tatgagtaca gcggcagcga ggaggaagat gacagccatg gagaggaagg agagccaagc 1020
 tccatcatga acgtgcctgg agagtcgact ctacgccggg agtttctccg gctccagcag 1080
 gaaaataaga gcaactcaga ggctttaaaa cagcagcagc agctgcagca gcagcagcag 1140
 cgagaccccg aggcacacat caaacacctg ctgcaccagc ggcagcggcg catagaggag 1200
 cagaaggagg agcggcgccg cgtggaggag caacagcggc gggagcggga gcagcggaag 1260
 ctgcaggaga aggagcagca gcggcggtg gaggacatgc aggtctctgc gcgggaggag 1320
 gagcggcgcc aggcggagcg cgagcaggaa tacaagcggg agcagctgga ggagcagcgg 1380
 cagtcagaac gtctccagag gcagctgcag caggagcatg cctacctcaa gtccctgcag 1440
 cagcagcaac agcagcagca gcttcagaaa cagcagcagc agcagctcct gcctggggac 1500
 aggaagcccc tgtaccatta tggtcggggc atgaatccc ctgacaaacc agcctggggc 1560
 cgagaggtag aagagagaac aaggatgaac aagcagcaga actctccctt ggccaagagc 1620
 aagccaggca gcacggggcc tgagcccccc atccccagg cctccccagg gccccagga 1680
 cccctttccc agactcctcc tatgcagagg ccggtggagc cccaggagg accgcacaag 1740
 agcctgggtg cacaccgggt cccactgaag ccatatgcag cacctgtacc ccgatcccag 1800
 tcctgcagg accagcccac ccgaaacctg gctgccttcc cagcctcca tgaccccgac 1860

cctgccatcc cgcacccac tgccacgccc agtgcccag gagctgtcat ccgccagaat	1920
tcagacccca cctctgaagg acctggcccc agcccgaatc cccagcctg ggtccgcccc	1980
gataacgagg cccacccaa ggtgcctcag aggacctcat ctatcgccac tgcccttaac	2040
accagtgggg ccggaggggc ccggccagcc caggcagtc gtgccagtaa ccccgacctc	2100
aggaggagcg accctggctg ggaacgctcg gacagcgtcc ttccagctc tcacgggcac	2160
ctccccagg ctggctcact ggagcggaac cgcgtgggag tctcctcaa accggacagc	2220
tcccctgtgc tctccctgg gaataaagcc aagcccagc accaccgtc acggccaggc	2280
cggcccgag actttgtgtt gctgaaagag cggactctgg acgaggcccc tcggcctccc	2340
aagaaggcca tggactactc gtcgtccagc gaggaggtg aaagcagtga ggacgacgag	2400
gaggaaggcg aaggcgggcc agcagagggg agcagagata cccctggggg ccgcagcgat	2460
ggggatacag acagcgtcag caccatggtg gtccacgacg tcgaggagat caccgggacc	2520
cagcccccat acggggggcg caccatggtg gtccagcgca cccctgaaga ggagcggaac	2580
ctgtgtcatg ctgacagcaa tgggtacaca aacctgcctg acgtgggtcca gccagccac	2640
tcaccacccg agaacagcaa aggccaaagc ccaccctcga aggatgggag tgggtgactac	2700
cagtctcgtg ggctggtaaa ggcccctggc aagagctcgt tcacgatgtt tgtggatcta	2760
gggatctacc agcctggagg cagtggggac agcatcccca tcacagccct agtgggtgga	2820
gagggcactc ggctcgacca gctgcagtac gacgtgagga agggttctgt ggtcaacgtg	2880
aatcccacca acaccgggc ccacagtga acccctgaga tccggaagta caagaagcga	2940
ttcaactccg agatcctctg tgcagccctt tgggggggtca acctgtgtgt gggcacggag	3000
aacgggctga tgttctgga ccgaagtggg cagggaagg tgtatggact cattgggcgg	3060
cgacgcttcc agcagatgga tgtgctggag gggctcaacc tgctcatcac catctcaggg	3120
aaaaggaaca aactgcgggt gtattacctg tcttggtcc ggaacaagat tctgcacaat	3180
gaccagaag tggagaagaa gcagggtg accaccgtg gggacatgga gggctgcggg	3240
cactaccgtg ttgtgaaata cgagcggatt aagttcctgg tcatcgccct caagagctcc	3300
gtggaggtgt atgcctgggc ccccaaacc taccacaaat tcatggcctt caagtccttt	3360
gccgacctcc cccaccgcc tctgctggtc gacctgacag tagaggaggg gcagcggctc	3420
aaggatcatc atggctccag tgctggcttc catgctgtgg atgtcgactc ggggaacagc	3480
tatgacatct acatccctgt gcacatccag agccagatca cggccatgc catcatcttc	3540
ctccccaaca ccgacggcat ggagatgctg ctgtgctacg aggacgaggg tgtctacgtc	3600
aacacgtacg ggcgcacat taaggatgtg gtgctgcagt ggggggagat gcctacttct	3660
gtggcctaca tctgctcaa ccagataatg ggctggggtg agaaagccat tgagatccgc	3720

tctgtggaga cgggccacct cgacggggtc ttcattgcaca aacgagctca gaggctcaag 3780
 ttccctgtgtg agcggaatga caaggtgttt tttgcctcag tccgctctgg gggcagcagc 3840
 caagtttact tcatgactct gaaccgtaac tgcattcatga actgggtga 3888

<210> 22
 <211> 5014
 <212> DNA
 <213> Homo sapiens

<400> 22
 ggctgggtcc ggggagatag cgcctgtcag tcgggtgggtc ggtcctcgcg ccggccctcc 60
 ccctccccgg tctccggggg aggcgcgggtg gagtccgccc ccgggggttct ccgatggggg 120
 agaagcggcg acggcggcag tggagtaacc gagccggagc gtgagcggcc ccggtgcccc 180
 gttccccacg gaggccatgg gcgaccacgc ccccgccgc agcctggacg acatcgacct 240
 gtccgccctg cgggaccctg ctgggatctt tgagcttgtg gaggtggctg gcaatggaac 300
 ctacggacag gtgtacaagg gtcggcatgt caagacgggg cagctggctg ccatcaagg 360
 catggatgtc acggaggacg aggaggaaga gatcaaacag gagatcaaca tgctgaaaaa 420
 gtactctcac caccgcaaca tcgccaccta ctacggagcc ttcattcaaga agagcccccc 480
 gggaaacgat gaccagctct ggctgggtgat ggagttctgt ggtgctgggt cagtgactga 540
 cctggtaaag aacacaaaag gcaacgcct gaaggaggac tgtatcgctt atatctgcag 600
 ggagatcctc aggggtcttg cccatctcca tgcccacaag gtgatccatc gagacatcaa 660
 ggggcagaat gtgctgctga cagagaatgc tgagggtcaag ctagtggatt ttggggtgag 720
 tgctcagctg gaccgcaccg tgggcagacg gaacactttc attgggactc cctactggat 780
 ggctccagag gtcattcgct gtgatgagaa ccctgatgcc acctatgatt acaggagtga 840
 tatttggtct ctaggaatca cagccatcga gatggcagag ggagcccccc ctctgtgtga 900
 catgcacccc atgcgagccc tcttcctcat tcctcggaac cctccgccc ggctcaagtc 960
 caagaagtgg tctaagaagt tcattgactt cattgacaca tgtctcatca agacttacct 1020
 gagccgccc cccacggagc agctactgaa gtttcccttc atccgggacc agcccacgga 1080
 gcggcaggtc cgcattccagc ttaaggacca cattgaccga tcccgaaga agcgggggtga 1140
 gaaagaggag acagaatatg agtacagcg cagcgaggag gaagatgaca gccatggaga 1200
 ggaaggagag ccaagctcca tcatgaacgt gcctggagag tcgactctac gccgggagtt 1260
 tctccggctc cagcaggaaa ataagagcaa ctcagaggct ttaaaacagc agcagcagct 1320
 gcagcagcag cagcagcgag accccgaggc acacatcaaa cacctgctgc accagcggca 1380
 gcggcgcata gaggagcaga aggaggagcg gcgcccgtg gaggagcaac agcggcgggg 1440

gcgggagcag cggaagctgc aggagaagga gcagcagcgg cggctggagg acatgcaggc 1500
 tctgcggcgg gaggaggagc ggccggcaggc ggagcgcgag caggaatata agcgggaagca 1560
 gctggaggag cagcggcagt cagaacgtct ccagaggcag ctgcagcagg agcatgccta 1620
 cctcaagtcc ctgcagcagc agcaacagca gcagcagctt cagaaacagc agcagcagca 1680
 gctcctgcct ggggacagga agcccctgta ccattatggg cggggcatga atcccgcctga 1740
 caaaccagcc tgggcccagag aggtagaaga gagaacaagg atgaacaagc agcagaactc 1800
 tcccttggcc aagagcaagc caggcagcac ggggcctgag ccccccattc ccaggcctc 1860
 ccaggggccc ccaggacccc tttcccagac tctcctatg cagaggccgg tggagcccca 1920
 ggagggaccg cacaagagcc tgggtggcaca ccgggtccca ctgaagccat atgcagcacc 1980
 tgtaccccca tcccagtcct tgcaggacca gccacccga aacctggctg ccttcccagc 2040
 ctcccatgac cccgacctg ccatcccccgc acccactgcc acgcccagtg ccgaggagc 2100
 tgtcatccgc cagaattcag accccacctc tgaaggacct ggcccagcc cgaatcccc 2160
 agcctgggtc cggccagata acgaggcccc acccaagggt cctcagagga cctcatctat 2220
 cgccactgcc cttaacacca gtggggccgg aggggtccgg ccagcccagg cagtccgtgc 2280
 cagacctcgc agcaactccg cctggcaaat ctatctgcaa aggcggggcag agcggggcac 2340
 cccaaagcct ccaggggccc ctgctcagcc ccctggcccg cccaacgcct ctagtaacct 2400
 cgacctcagg aggagcgacc ctggctggga acgctcggac agcgtcctc cagcctctca 2460
 cgggcacctc cccaggctg gctcactgga gcggaaccgc gtgggagcct cctccaaact 2520
 ggacagctcc cctgtgtctt cccctgggaa taaagccaag cccgacgacc accgctcacg 2580
 gccaggccgg cccgcagact ttgtgtgtg gaaagagcgg actctggacg agggccctcg 2640
 gcctcccaag aaggccatgg actactcgtc gtccagcgag gaggtggaaa gcagtgagga 2700
 cgacgaggag gaaggcgaag gcgggccagc agaggggagc agagataccc ctgggggccc 2760
 cagcgatggg gatacagaca gcgtcagcac catggtggtc cagcagctcg aggagatcac 2820
 cgggacccag ccccatatc gggcgggcac catggtggtc cagcgacccc ctgaagagga 2880
 gcggaacctg ctgcatgctg acagcaatgg gtacacaaac ctgcctgacg tggtcagcc 2940
 cagccactca cccaccgaga acagcaaagg ccaaagccca ccctcgaagg atgggagtgg 3000
 tgactaccag tctcgtgggc tggtaaaggc ccctggcaag agctcgttca cgatgtttgt 3060
 ggatctaggg atctaccagc ctggaggcag tggggacagc atcccatca cagccctagt 3120
 ggggtggagag ggcactcggc tcgaccagct gcagtacgac gtgaggaagg gttctgtggt 3180
 caacgtgaat cccaccaaca cccgggccc cagtgaagcc cctgagatcc ggaagtacaa 3240
 gaagcgattc aactccgaga tctctgtgc agccctttgg ggggtcaacc tgctggtggg 3300

cacggagaac gggctgatgt tgctggaccg aagtgggcag ggcaaggtgt atggactcat 3360
 tggggcggga cgcttcacgc agatggatgt gctggagggg ctcaacctgc tcatcaccat 3420
 ctcaaggaaa aggaacaaac tgcgggtgta ttacctgtcc tggctccgga acaagattct 3480
 gcacaatgac ccagaagtgg agaagaagca gggctggacc accgtggggg acatggaggg 3540
 ctgcggggcac taccgtgttg tgaaatacga gcggattaag ttcttggtca tcgccctcaa 3600
 gagctccgtg gaggtgtatg cctggggccc caaacctac cacaaattca tggccttcaa 3660
 gtcctttgcc gacctcccc accgccctct gctggtcgac ctgacagtag aggaggggca 3720
 gcggctcaag gtcacttatg gctccagtgc tggcttccat gctgtggatg tcgactcggg 3780
 gaacagctat gacatctaca tccctgtgca catccagagc cagatcacgc cccatgccat 3840
 catcttcttc cccaacaccg acggcatgga gatgctgctg tgctacgagg acgaggggtg 3900
 ctacgtcaac acgtacgggc gcatcattaa ggatgtggtg ctgcagtggg gggagatgcc 3960
 tactttctgt gcctacatct gctccaacca gataatgggc tggggtgaga aagccattga 4020
 gatccgctct gtggagacgg gccacctcga cggggtcttc atgcacaaac gagctcagag 4080
 gctcaagttc ctgtgtgagc ggaatgacaa ggtgtttttt gcctcagtcc gctctggggg 4140
 cagcagccaa gtttacttca tgactctgaa ccgtaactgc atcatgaact ggtgacgggg 4200
 ccctgggctg gggctgtccc aactggacc cagctctccc cctgcagcca ggcttcccgg 4260
 gccgcccctc tttcccctcc ctgggctttt gcttttactg gtttgatttc actggagcct 4320
 gctgggaacg tgacctctga cccctgatgc ttctgtgatc acgtgaccat cctcttcccc 4380
 aacatgtcct cttcccaaaa ctgtgcctgt cccagcttc tggggagggg cacagcttcc 4440
 ccttcccagg aattgagtgg gcctagcccc tcccccttt tctccatttg agaggagagt 4500
 gcttggggct tgaacccctt accccactgc tgetgactgg gcagggccct ggaccccttt 4560
 atttgacgt caggggagcc ggctcccccc ttgaatgtac cagaccctgg ggggggtcac 4620
 tgggccctag atttttgggg ggtcaccagc cactccaggg gcagggacca tttcttcatt 4680
 ttctgaaagc actttaatga ttccccttcc cccaaactcc agggaatgga ggggggaccc 4740
 cgccagccaa aacattcccc ccattccga ccccatctc ctcttctagc ccatgccctt 4800
 ccccggtgga gggagggagc agggagccct cactctccac gcccttgct tgcactgtga 4860
 tatagtgtga gcagcaagta acccttctcc tccctcccc ctcacccctc ctcaatgtag 4920
 tggccttgga tctctgttt gttaataaag acaattcaac cagcaaaaaa aaaaaaaaaa 4980
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa 5014

<210> 23
 <211> 1665
 <212> DNA

<213> Homo sapiens

<400> 23

```

gaagtgtccg actgggtgcg catggggaat gcccttgaca acatctgctt ctgggccgct      60
ctgggtgctct tcagcgtggg ctccagcctc atcttcctcg gggcctactt caaccgagtg     120
cctgatctcc cctacgcgcc gtgtatccag ccttagctcg caccgacttc aatttccac      180
ccatctccag taggaaattg attttgaaaa agtaggctgc cgccaccacg gcattatgat      240
cccttcccc tgctgatcaa tctgcagttt gtgaacttca caagaatggg gtgtgccctt      300
ccctggcgctg tgtaggcctg gccgcagtcc aggggtcagc aggaggaaag ggttcacata     360
ggctctcagg tgccagtctt ccagaaagca aggactgccc ttcattcagc cttgtgacc      420
tcccagcctt tctaaggctc agccccacgg gactctgggtg gctgccagct tgtgagctat     480
ctatctatat tcatttcata gccaaacagg agacccttt gcaggacttg cacacaggga      540
ggctgtagcc aggaaacctt cttcttcctt ggtctggctc tgctggagcg ggtgggaacc      600
aaacaccttc agtgctgggtg gccctcaggc ccacaggttt aaggctgagg ctgccctgac     660
ccttcacag tcatttcttc taggttttct tggcccagca ctgcccattc caccatga      720
ggctcactca ttgcagatcc cagcccaccc tgccccttct tccccaccc tggaggtctt     780
ctctgcctag tctacagtac tgacagaaag caaggacatg cggcctgcat ggtgggagct      840
ggttgaattg tctttattaa caaacaggat atccaaggcc actacattga ggaggggtgg      900
gggggggagg agaagggtta cttgctgctc acactatata cagatgcaag caaggggct      960
ggagagttag ggctccctgc tccctccctc caccggggaa gggcatgggc tagaagagga     1020
gaggggggtc gggaatgggg ggaatgtttt ggctggcggg gtccccctc cattccctgg     1080
agtttggggg aaggggaatc attaaagtgc ttccagaaaa tgaagaaatg gtcctgccc      1140
ctggagtggc tggtgacccc ccaaaaatct agggcccagt gacccccccc agggctctgg      1200
acattcaagg ggggagccgg ctcccctgac gtgcaaataa aggggtccag ggcctgccc      1260
agtcagcagc agtggggtaa ggggttcaag cccaagcac tctcctctca aatggagaaa     1320
aggggggagg ggctaggccc actcaattcc tgggaagggg aagctgtgtc cctccccaga     1380
agctggggac aggcacagtt ttgggaagag gacatgttgg ggaagaggat ggtcacgtga     1440
tcacgaaagc atcaggggtc agaggtcacg tcccagcag gctccagtga aatcaaacca     1500
gtaaaagcaa aagcccaggg aggggaaaga gggcgggccc gggaagcctg gctgcagggg     1560
gagagctggg tccagtgtgg gacagcccca gccagggccc ccgtcaccag ttcattgatgc     1620
agttacgggt cagagtcatg aagtaaactt ggctgctgcc ccag                          1665

```

<210> 24

<211> 3152

<212> DNA

<213> Homo sapiens

<400> 24

taaaggcccc tggcaagagc tcgttcacga tgtttgtgga tctagggatc taccagcctg	60
gaggcagtgg ggacagcatc cccatcacag gtgaggacag gaggacagac ctgctgtgag	120
gccagggtcc aggggcagcc tggaggggag cacagtggtc ttgagacgca gcctcacaaa	180
gcatagccac aggacctctc ccttggggcc tagcacctgc ctgggcacag aggcaaggaa	240
gagcctctga gacccctcct tcctgtccca caggacagga aatgctcaga gttgccaggg	300
gacctgggca aagactcaaa gctaacaagt gacagaaatg ggacttgagc cagacctttt	360
gactccaagt ccagcactct atccccctct cccatgcacc tcctctctct ctgtctttct	420
cctcctttct gcgtattatg aggtgccaag acctgatata ggggatggag gtaaaaagag	480
atggggtgag aagctgcagc ccctcctccc acctcctcct ccttctggca gccctagtgg	540
gtggagaggg cactcggctc gaccagctgc agtacgacgt gaggaagggt tctgtgttca	600
acgtgaatcc caccaacacc cggggcccaca gtgagacccc tgagatccgg aagtacaaga	660
agcgattcaa ctccgagatc ctctgtgcag cccttgggg ggtcaacctg ctggtgggca	720
cggagaacgg gctgatgttg ctggaccgaa gtgggcaggg caagggtgat ggactcattg	780
ggcggcgacg cctccagcag atggatgtgc tggaggggct caacctgctc atcaccatct	840
caggtaacgg tgtggtgagt gggggaggga ggaggggctc agctccttgg cgctgtcacc	900
atcttctgcc tgggaggagg gcaggcactg gaagggtggg ccacacttct tcaccttctg	960
tggtatgctg acagaggagg ccagggcggg ggcatcggg cctcagatga gaatgggggc	1020
gggtgtgtat gtctgtccgt ccctcagga aaaggaacaa actgcgggtg tattacctgt	1080
cctggctccg gaacaagatt ctgcacaatg acccagaagt ggagaagaag cagggctgga	1140
ccaccgtggg ggacatggag ggctgcgggc actaccgtgt tggtgaggat gtcccaacag	1200
agtggccagc gcatacttgt tcatgaagag agaaatggat ctgggagcca gggacttggg	1260
gcctgggtgg ggcagtgtag tgacagacca cggggaggcg cccgtggcgc aagaagggaa	1320
gtctcagcat ccctcttctc tcccgcctcc agtgaaatac gagcggatta agttcctggt	1380
catcgccctc aagagctccg tggaggtgta tgcctgggccc cccaaaccct accacaaatt	1440
catggccttc aagtcccttg ccgacctccc ccaccgccct ctgctggctg acctgacagt	1500
agaggagggg cagcggctca aggtcatcta tggctccagt gctggcttcc atgctgtgga	1560
tgctcgactc gggaaacagc atgacatcta catccctgtg cacatccaga gccagatcac	1620
gccccatgcc atcatcttcc tcccaaacac cgacggcatg gagatgctgc tgtgctacga	1680
ggacgagggt gtctacgtca acacgtacgg gcgcatcatt aaggatgtgg tgctgcagtg	1740

gggggagatg cctacttctg tggcctacat ctgtccaac cagataatgg gctgggggtga 1800
 gaaagccatt gagatccgct ctgtggagac gggccacctc gacgggggtct tcatgcacaa 1860
 acgagctcag aggetcaagt tcctgtgtga gcggaatgac aagggtgggag gctccttccc 1920
 tctgaaagcc ctgtgtgccc ggctgccatg accctaggcc cctgggcaga gttctgggga 1980
 gaggatgggt gtgtgggtt cctaaaagcg ggccccctg ggagctcgga gggcagtcag 2040
 ccactaccac tgccctgcgc tcccttcaga ttccgaggac ttcctagctg gccccagag 2100
 ggcgagtggt gcacctctc ccctaaccac ccagcctgcc tttcctccgg gtgaggggca 2160
 ctgtgagtct cctcctgcag tctctgtgtc tccctcaact cttctgccac cccttcttcc 2220
 cttctttccc tctcccagtt gagacacccc cccaacctca gcccttggtg acttcttctc 2280
 ctgccccacc caggtgtttt ttgcctcagt ccgctctggg ggcagcagcc aagtttactt 2340
 catgactctg aaccgtaact gcatcatgaa ctggtgacgg ggccctgggc tggggctgtc 2400
 ccacactgga ccagctctc ccctgcagc caggcttccc gggccgcccc tcttcccctc 2460
 cctgggcttt tgcttttact ggtttgattt cactggagcc tgctgggaac gtgacctctg 2520
 acccctgatg ctttcgtgat cacgtgacca tctcttccc caacatgtcc tcttccaaa 2580
 actgtgcctg tccccagctt ctggggaggg acacagcttc cccttcccag gaattgagt 2640
 ggcctagccc ctccccctt ttctccattt gagaggagag tgcttggggc ttgaaccct 2700
 taccocactg ctgtgactg ggcagggccc tggaccctt tatttgacg tcaggggagc 2760
 cggctcccc cttgaatgta ccagaccctg gggggggtca ctgggcccta gatttttggg 2820
 gggtcaccag cactccagg ggcagggacc atttcttcat tttctgaaag cactttaatg 2880
 attccccctc ccccaaactc cagggaatgg aggggggacc ccgccagcca aaacattccc 2940
 cccattcccg accccatct cctcttctag cccatgccct tcccggcg agggagggag 3000
 cagggagccc tactctcca cgccttctg ttgcatctgt atatagtgtg agcagcaagt 3060
 aacccttctc ctccctcccc cctcaccct cctcaatgta gtggccttg atactctgtt 3120
 tgtaataaaa gacaattcaa ccagctccca cc 3152

<210> 25

<211> 4878

<212> DNA

<213> Homo sapiens

<400> 25

ggctggctcc ggggagatag cgctgtcag tcgggtgggtc ggtcctcgcg ccggccctcc 60
 cctcccccg tctccggggg aggcgcgggtg gagtccgccc ccgggggttct ccgatggggg 120
 agaagcggcg acggcggcag tggagtaacc gagccggagc gtgagcggcc ccgggtgcccc 180
 gttccccacg gaggccatgg ggcacccagc ccccgccgc agcctggacg acatcgacct 240

gtccgccctg cgggaccctg ctgggatctt tgagcttgtg gaggtggctg gcaatggaac	300
ctacggacag gtgtacaagg gtcggcatgt caagacgggg cagctggctg ccatcaaggt	360
catggatgtc acggaggacg aggaggaaga gatcaaacag gagatcaaca tgctgaaaaa	420
gtactctcac caccgcaaca tcgccaccta ctacggagcc ttcatacaaga agagcccccc	480
gggaaacgat gaccagctct ggctgggtgat ggagttctgt ggtgctgggt cagtgactga	540
cctggtaaag aacacaaaag gcaacgccct gaaggaggac tgtatcgctt atatctgcag	600
ggagatcctc aggggtcttg cccatctcca tgcccacaag gtgatccatc gagacatcaa	660
ggggcagaat gtgctgctga cagagaatgc tgagggtcaag ctagtggatt ttgggggtgag	720
tgctcagctg gaccgcaccg tgggcagacg gaacactttc attgggactc cctactggat	780
ggctccagag gtcatcgctt gtgatgagaa ccctgatgcc acctatgatt acaggagtga	840
tatttggtct ctaggaatca cagccatcga gatggcagag ggagcccccc ctctgtgtga	900
catgcacccc atgcgagccc tcttctctcat tctcgggaac cctccgcccc ggctcaagtc	960
caagaagtgg tctaagaagt tcattgactt cattgacaca tgtctcatca agacttacct	1020
gagccgcccc cccacggagc agctactgaa gtttccttc atccgggacc agcccacgga	1080
gcggcaggtc cgcattccagc ttaaggacca cattgaccga tcccgggaaga agcgggggtga	1140
gaaagaggag acagaatatg agtacagcgg cagcgaggag gaagatgaca gccatggaga	1200
ggaaggagag ccaagctcca tcatgaacgt gcctggagag tcgactctac gccgggagtt	1260
tctccggctc cagcaggaaa ataagagcaa ctgagaggct ttaaaacagc agcagcagct	1320
gcagcagcag cagcagcag accccgaggc acacatcaaa cacctgctgc accagcggca	1380
gcggcgcata gaggagcaga aggaggagcg gcgcccgtg gaggagcaac agcggcgagg	1440
gcgggagcag cggaagctgc aggagaagga gcagcagcgg cggctggagg acatgcaggc	1500
tctgcggcgg gaggaggagc ggcggcaggc ggagcgcgag caggaataca agcgggaagca	1560
gctggaggag cagcggcagt cagaacgtct ccagaggcag ctgcagcagg agcatgccta	1620
cctcaagtcc ctgcagcagc agcaacagca gcagcagctt cagaaacagc agcagcagca	1680
gctcctgcct ggggacagga agcccctgta ccattatggt cggggcatga atcccgtga	1740
caaaccagcc tgggcccag aggtagaaga gagaacaagg atgaacaagc agcagaactc	1800
tcccttgccc aagagcaagc caggcagcac ggggcctgag ccccccatcc ccagggcctc	1860
cccagggccc ccaggacccc tttcccagac tctcctatg cagaggccgg tggagcccc	1920
ggagggaccg cacaagagcc tgggtggcaca ccgggtccca ctgaagccat atgcagcacc	1980
tgtacccccga tcccagtcct tgcaggacca gccacccga aacctggctg ccttcccagc	2040
ctcccatgac ccgcaccctg ccattccccgc acccaactgcc acgcccagtg ccgaggagc	2100

tgtcatccgc	cagaattcag	acccacacctc	tgaaggacct	ggccccagcc	cgaatcccc	2160
agcctgggtc	cgcccagata	acgaggcccc	acccaagggtg	cctcagagga	cctcatctat	2220
cgccactgcc	cttaacacca	gtggggccgg	agggctccgg	ccagcccagg	cagtccgtgc	2280
cagtaacccc	gacctcagga	ggagcgaccc	tggctgggaa	cgctcggaca	gcgtccttcc	2340
agcctctcac	gggcacctcc	cccaggctgg	ctcactggag	cggaaccgcg	tgggagtctc	2400
ctccaaaccg	gacagctccc	ctgtgctctc	ccctgggaat	aaagccaagc	ccgacgacca	2460
ccgctcacgg	ccaggccggc	ccgcagactt	tgtgttgctg	aaagagcgga	ctctggacga	2520
ggccccctcg	cctcccaaga	aggccatgga	ctactcgctg	tccagcgagg	aggtggaaaag	2580
cagtgaggac	gacgaggagg	aaggcgaagg	cgggccagca	gaggggagca	gagatacccc	2640
tgggggcccgc	agcgatgggg	atacagacag	cgtcagcacc	atggtgggtcc	acgacgtcga	2700
ggagatcacc	gggaccacgc	ccccatacgg	gggcggcacc	atggtgggtcc	agcgaccccc	2760
tgaagaggag	cggaacctgc	tgcattgctga	cagcaatggg	tacacaaacc	tgcttgacgt	2820
ggtccagccc	agccactcac	ccaccgagaa	cagcaaaggc	caaagcccac	cctcgaagga	2880
tgggagtggg	gactaccagt	ctcgtgggct	ggtaaaggcc	cctggcaaga	gctcgttcac	2940
gatgtttgtg	gatctagggg	tctaccagcc	tggaggcagt	ggggacagca	tccccatcac	3000
agccctagtg	ggtggagagg	gcactcggct	cgaccagctg	cagtacgacg	tgaggaaagg	3060
ttctgtggtc	aacgtgaatc	ccaccaacac	ccgggcccac	agtgagaccc	ctgagatccg	3120
gaagtacaag	aagcgattca	actccgagat	cctctgtgca	gccctttggg	gggtcaacct	3180
gctggtgggc	acggagaacg	ggctgatgtt	gctggaccga	agtgggcagg	gcaagggtga	3240
tggactcatt	gggcggcgac	gcttccagca	gatggatgtg	ctggaggggc	tcaacctgct	3300
catcaccatc	tcagggaaaa	ggaacaaact	gcgggtgtat	tacctgtcct	ggctccggaa	3360
caagattctg	cacaatgacc	cagaagtgga	gaagaagcag	ggctggacca	ccgtggggga	3420
catggagggc	tgccggcact	accgtgttgt	gaaatacgag	cggattaagt	tcctggtcat	3480
cgcctcaag	agctccgtgg	aggtgtatgc	ctgggcccc	aaaccctacc	acaaattcat	3540
ggccttcaag	tcctttgccg	acctccccca	ccgccctctg	ctggtcgacc	tgacagtaga	3600
ggaggggcag	cggtcaagg	tcattctatg	ctccagtgtc	ggcttccatg	ctgtggatgt	3660
cgactcgggg	aacagctatg	acatctacat	ccctgtgcac	atccagagcc	agatcacgcc	3720
ccatgccatc	atcttctctc	ccaacaccga	cggcatggag	atgctgctgt	gctacgagga	3780
cgagggtgtc	tacgtcaaca	cgtaaggggc	catcattaag	gatgtgggtc	tgagtgggg	3840
ggagatgcct	acttctgtgg	cctacatctg	ctccaaccag	ataatgggct	ggggtgagaa	3900
agccattgag	atccgctctg	tggagacggg	ccacctcgac	ggggtcttca	tgacaaaacg	3960

```

agctcagagg ctcaagttcc tgtgtgagcg gaatgacaag gtgttttttg cctcagtcgg 4020
ctctgggggc agcagccaag tttacttcat gactctgaac cgtaactgca tcatgaactg 4080
gtgacggggc cctgggctgg ggctgtccca cactggaccc agctctcccc ctgcagccag 4140
gcttccccgg cgcacctct tccccctccc tgggcttttg cttttactgg tttgatttca 4200
ctggagcctg ctgggaacgt gacctctgac ccctgatgct ttctgtatca cgtgaccatc 4260
ctcttcccca acatgtctc tccccaaaac tgtgcctgtc cccagcttct ggggagggac 4320
acagcttccc ctcccagga attgagtggg cctagccct ccccccttt ctccatttga 4380
gaggagagtg cttggggctt gaacctctta cccactgct gctgactggg cagggccctg 4440
gacctcttta tttgcacgtc aggggagccg gctccccct tgaatgtacc agacctggg 4500
gggggtcact gggccctaga ttttggggg gtcaccagcc actccagggg cagggaccat 4560
ttcttcattt tctgaaagca cttaatat tccccctccc ccaaactcca gggaatggag 4620
gggggacccc gccagccaaa acattcccc cattccccgac ccccatctcc tcttctagcc 4680
catgcccttc cccggtggag ggaggagca gggagccctc actctccacg ccccttgctt 4740
gcatctgtat atagtgtgag cagcaagtaa cccttctct cctccccccc tcacctctcc 4800
tcaatgtagt ggccttgat atcctgtttg ttaataaaga caattcaacc agctcccacc 4860
aaaaaaaaa aaaaaaaaaa 4878

```

```

<210> 26
<211> 4989
<212> DNA
<213> Homo sapiens

```

```

<400> 26
ggctggctcc ggggagatag cgctgtcag tcggtgggtc ggtcctcgcg ccggccctcc 60
ccctccccgg tctccggggg aggcgcggtg gagtccgcc ccgggggttct ccgatggggg 120
agaagcggcg acggcggcag tggagtaacc gagccggagc gtgagcggcc ccggtgcccc 180
gttccccacg gaggccatgg gcgaccagc cccgccccgc agcctggacg acatcgacct 240
gtccgccctg cgggaccctg ctgggatctt tgagcttggt gaggtggtcg gcaatggaac 300
ctacggacag gtgtacaagg gtcggcatgt caagacgggg cagctggctg ccatcaaggt 360
catggatgtc acggaggacg aggaggaaga gatcaaacag gagatcaaca tgctgaaaaa 420
gtactctcac caccgcaaca tcgccacct ctacggagcc ttcataaga agagcccccc 480
gggaaacgat gaccagctct ggctggtgat ggagttctgt ggtgctggtt cagtgactga 540
cctggtaaag aacacaaaag gcaacgccct gaaggaggac tgtatcgctc atatctgcag 600
ggagatcctc aggggtctgg cccatctcca tgcccacaag gtgatccatc gagacatcaa 660

```


ggggcagaat	gtgctgctga	cagagaatgc	tgaggtcaag	ctagtggatt	ttgggggtgag	720
tgctcagctg	gaccgcaccg	tgggcagacg	gaacactttc	attgggactc	cctactggat	780
ggctccagag	gtcatcgctt	gtgatgagaa	ccctgatgcc	acctatgatt	acaggagtga	840
tatttggtct	ctaggaatca	cagccatcga	gatggcagag	ggagcccccc	ctctgtgtga	900
catgcacccc	atgcgagccc	tcttctcat	tcctcggaac	cctccgccc	ggctcaagtc	960
caagaagtgg	tctaagaagt	tcattgactt	cattgacaca	tgtctcatca	agacttacct	1020
gagccgccc	cccacggagc	agctactgaa	gtttcccttc	atccgggacc	agcccacgga	1080
gcggcaggtc	cgcatccagc	ttaaggacca	cattgaccga	tcccgggaaga	agcgggggtga	1140
gaaagaggag	acagaatatg	agtacagcgg	cagcgaggag	gaagatgaca	gcatggaga	1200
ggaaggagag	ccaagctcca	tcataaacgt	gcctggagag	tcgactctac	gccgggagtt	1260
tctccggctc	cagcaggaaa	ataagagcaa	ctcagaggct	ttaaaacagc	agcagcagct	1320
gcagcagcag	cagcagcgag	accccagggc	acacatcaaa	cacctgctgc	accagcggca	1380
gcggcgcata	gaggagcaga	aggaggagcg	gcgccgcgtg	gaggagcaac	agcggcggga	1440
gcgggagcag	cggaagctgc	aggagaagga	gcagcagcgg	cggctggagg	acatgcaggc	1500
tctgcggcgg	gaggaggagc	ggcggcaggc	ggagcgcgag	caggaatata	agcggaagca	1560
gctggaggag	cagcggcagt	cagaacgtct	ccagaggcag	ctgcagcagg	agcatgccta	1620
cctcaagtcc	ctgcagcagc	agcaacagca	gcagcagctt	cagaaacagc	agcagcagca	1680
gctcctgcct	ggggacagga	agcccctgta	ccattatggt	cggggcatga	atcccgcgtga	1740
caaaccagcc	tggggccgag	aggtagaaga	gagaacaagg	atgaacaagc	agcagaactc	1800
tcccttgggc	aagagcaagc	caggcagcac	ggggcctgag	ccccccatcc	cccaggcctc	1860
cccaggggccc	ccaggacccc	tttcccagac	tcctcctatg	cagaggccgg	tggagcccca	1920
ggagggaccg	cacaagagcc	tggtggcaca	ccgggtccca	ctgaagccat	atgcagcacc	1980
tgtaccccca	tcccagtcct	tgcaggacca	gccacccga	aacctggctg	ccttcccagc	2040
ctcccatgac	cccagaccctg	ccatccccgc	accactgcc	acgcccagtg	cccgaggagc	2100
tgcatccgc	cagaattcag	acccacctc	tgaaggacct	ggccccagcc	cgaatcccc	2160
agcctgggtc	cgcccagata	acgaggcccc	acccaagggtg	cctcagagga	cctcatctat	2220
cgccactgcc	cttaacacca	gtggggcccg	aggggtcccg	ccagcccagg	cagtcctgac	2280
cagacctcgc	agcaactccg	cctggcaaat	ctatctgcaa	aggcgggcag	agcggggcac	2340
cccaaagcct	ccaggggccc	ctgctcagcc	ccctggcccc	cccaacgcct	ctagtaaccc	2400
cgacctcagg	aggagcgacc	ctggctggga	acgctcggac	agcgtccttc	cagcctctca	2460
cgggcacctc	ccccaggctg	gctcactgga	gcggaaccgc	gtgggagtct	cctccaaacc	2520

ggacagctcc cctgtgctct ccctgggaa taaagccaag cccgacgacc accgctcacg 2580
 gccaggccgg cccgcagact ttgtgttgct gaaagagcgg actctggacg aggcccctcg 2640
 gcctcccaag aaggccatgg actactcgtc gtccagcgag gaggtggaaa gcagtgagga 2700
 cgacgaggag gaaggcgaag gcgggccagc agaggggagc agagataccc ctggggggccg 2760
 cagcgatggg gatacagaca gcgtcagcac catgggtggc cagcagctcg aggagatcac 2820
 cgggacccag ccccatatcg ggggcggcac catgggtggc cagcgcaccc ctgaagagga 2880
 gcggaacctg ctgcatgctg acagcaatgg gtacacaaac ctgcctgacg tggccagcc 2940
 cagccactca cccaccgaga acagcaaagg ccaaagccca ccctcgaagg atgggagtg 3000
 tgactaccag tctcgtgggc tggtaaaggc ccctggcaag agctcgttca cgatgtttgt 3060
 ggatctaggg atctaccagc ctggaggcag tggggacagc atcccatca cagccctagt 3120
 ggggtggagag ggcaactcggc tcgaccagct gcagtacgac gtgaggaagg gttctgtgg 3180
 caacgtgaat cccaccaaca cccgggcca cagtgagacc cctgagatcc ggaagtacaa 3240
 gaagcgattc aactccgaga tcctctgtgc agccctttgg ggggtcaacc tgctgggtgg 3300
 cacggagaac gggctgatgt tgctggaccg aagtgggcag ggcaagggtg atggactcat 3360
 tgggcggcga cgcttcacgc agatggatgt gctggagggg ctcaacctgc tcatcaccat 3420
 ctcagggaaa aggaacaaac tgccgggtgta ttacctgtcc tggctccgga acaagattct 3480
 gcacaatgac ccagaagtgg agaagaagca gggctggacc accgtggggg acatggaggg 3540
 ctgcgggcac taccgtgttg tgaaatacga gcggattaag ttctgtgtca tcgccctcaa 3600
 gagctccgtg gaggtgtatg cctgggcccc caaacctac cacaattca tggccttcaa 3660
 gtcctttgcc gacctcccc accgccctct gctggctgac ctgacagtag aggaggggca 3720
 gcggctcaag gtcattatg gctccagtgc tggcttccat gctgtggatg tcgactcggg 3780
 gaacagctat gacatctaca tcctgtgtca catccagagc cagatcacgc cccatgccat 3840
 catcttctc cccaacaccg acggcatgga gatgctgctg tgctacgagg acgaggggtg 3900
 ctacgtcaac acgtacgggc gcatcattaa ggatgtgggtg ctgcagtggg gggagatgcc 3960
 tactttctg gcctacatct gctccaacca gataatgggc tggggtgaga aagccattga 4020
 gatccgctct gtggagacgg gccacctcga cggggtcttc atgcacaaac gagctcagag 4080
 gctcaagttc ctgtgtgagc ggaatgacaa ggtgtttttt gcctcagtcc gctctggggg 4140
 cagcagccaa gtttacttca tgactctgaa ccgtaactgc atcatgaact ggtgacgggg 4200
 ccctgggctg gggctgtccc aactggacc cagctctccc cctgcagcca ggcttcccgg 4260
 gccgcccctc tttcccctcc ctgggctttt gcttttactg gtttgatttc actggagcct 4320
 gctgggaacg tgacctctga ccctgatgc ttctgtgatc acgtgaccat cctcttcccc 4380

```

aacatgtcct cttcccaaaa ctgtgcctgt ccccagcttc tggggagggg cacagcttcc 4440
ccttcccagg aattgagtgg gcctagcccc tccccctttt tctccatttg agaggagagt 4500
gcttggggct tgaacccctt accccactgc tgctgactgg gcagggccct ggaccccttt 4560
atttgcacgt caggggagcc ggctcccccc ttgaatgtac cagaccctgg ggggggtcac 4620
tgggccctag atttttgggg ggtcaccagc cactccaggg gcagggacca tttcttcatt 4680
ttctgaaagc actttaatga ttcccccttc cccaaactcc aggggaatgga ggggggaccc 4740
cgccagccaa aacattcccc ccattccoga cccccctctc ctcttctage ccatgccctt 4800
ccccggtgga gggagggagc agggagccct cactctccac gcccttgct tgcattctga 4860
tatagtgtga gcagcaagta acccttctcc tccctcccc ctcacccctc ctcaatgtag 4920
tggccttgga tatcctgttt gttaataaag acaattcaac cagctccac caaaaaaaaa 4980
aaaaaaaaa 4989

```

```

<210> 27
<211> 4902
<212> DNA
<213> Homo sapiens

```

```

<400> 27
ggctggctcc ggggagatag cgcctgtcag tcggtgggtc ggtcctcgcg ccggccctcc 60
cctccccggg tctccggggg aggcgcgggtg gagtcgccc ccgggggttct ccgatggggg 120
agaagcggcg acggcggcag tggagtaacc gagccggagc gtgagcggcc ccggtgcccc 180
gttccccacg gaggccatgg gcgaccacgc ccccgcccgc agcctggacg acatcgacct 240
gtccgccctg cgggaccctg ctgggatctt tgagcttggtg gaggtgggtc gcaatggaac 300
ctacggacag gtgtacaagg gtccggcatgt caagacgggg cagctggctg ccatcaaggt 360
catggatgtc acggaggacg aggaggaaga gatcaaacag gagatcaaca tgctgaaaaa 420
gtactctcac caccgcaaca tcgccaccta ctacggagcc ttcattcaaga agagcccccc 480
gggaaacgat gaccagctct ggctgggtgat ggagttctgt ggtgctggtt cagtgactga 540
cctggtaaaag aacacaaaag gcaacgccct gaaggaggac tgtatcgctt atatctgcag 600
ggagatcctc aggggtcttg cccatctcca tgcccacaag gtgatccatc gagacatcaa 660
ggggcagaat gtgctgctga cagagaatgc tgagggtcaag ctagtggatt ttgggggtgag 720
tgctcagctg gaccgcaccg tgggcagacg gaacactttc attgggactc cctactggat 780
ggctccagag gtcacgcctt gtgatgagaa ccctgatgcc acctatgatt acaggagtga 840
tatttgggtc ctaggaatca cagccatcga gatggcagag ggagcccccc ctctgtgtga 900
catgcacccc atgcgagccc tcttcctcat tctcggaaac cctccgcca ggctcaagtc 960
caagaagtgg tctaagaagt tcattgactt cattgacaca tgtctcatca agacttacct 1020

```

gagccgcca cccacggagc agctactgaa gtttcccttc atccgggacc agcccacgga 1080
 gcggcaggtc cgcattccagc ttaaggacca cattgaccga tcccgaaga agcggggtga 1140
 gaaagaggag acagaatatg agtacagcgg cagcgaggag gaagatgaca gccatggaga 1200
 ggaaggagag ccaagctcca tcatgaacgt gcctggagag tcgactctac gccgggagtt 1260
 tctccggctc cagcaggaaa ataagagcaa ctgagaggct ttaaaacagc agcagcagct 1320
 gcagcagcag cagcagcgag accccgaggc acacatcaaa cacctgctgc accagcggca 1380
 gcggcgcata gaggagcaga aggaggagcg gcgcccgtg gaggagcaac agcggcggga 1440
 gcgggagcag cggaagctgc aggagaagga gcagcagcgg cggctggagg acatgcaggc 1500
 tctgcggcgg gaggaggagc ggcggcaggc ggagcgcgag caggaataca agcgggaagca 1560
 gctggaggag cagcggcagt cagaacgtct ccagaggcag ctgcagcagg agcatgccta 1620
 cctcaagtcc ctgcagcagc agcaacagca gcagcagctt cagaaacagc agcagcagca 1680
 gctcctgcct ggggacagga agcccctgta ccattatggt cggggcatga atcccgtga 1740
 caaaccagcc tgggcccag aggtagaaga gagaacaagg atgaacaagc agcagaactc 1800
 tcccttggtc aagagcaagc caggcagcac ggggcctgag ccccccattc ccaggcctc 1860
 ccaggggccc ccaggacccc tttcccagac tctctctatg cagaggccgg tggagcccca 1920
 ggagggaccg cacaagagcc tgggtggcaca ccgggtccca ctgaagccat atgcagcacc 1980
 tgtaccccga tcccagtcct tgcaggacca gccacccga aacctggctg ctttcccagc 2040
 ctcccatgac cccgacctg ccatccccgc acccactgcc acgcccagtg cccgaggagc 2100
 tgtcatccgc cagaattcag accccacctc tgaaggacct ggccccagcc cgaatccccc 2160
 agcctgggtc cgcccagata acgaggcccc acccaagggtg cctcagagga cctcatctat 2220
 cgccactgcc cttaacacca gtggggccgg aggggtccgg ccagcccagg cagtccgtgc 2280
 cagtaacccc gacctcagga ggagcgacct tggctgggaa cgctcggaca gcgtccttcc 2340
 agcctctcac gggcacctcc ccagggtggt ctcactggag cggaaccgag tgggagcttc 2400
 ctccaaaccg gacagctccc ctgtgtcttc ccctgggaat aaagccaagc ccgacgacca 2460
 ccgtcacgg ccaggccggc ccgcaagcta taagcgagca attggtgagg actttgtgtt 2520
 gctgaaagag cggaactctg acgaggcccc tcggcctccc aagaaggcca tggactactc 2580
 gtcgtccagc gaggaggtg aaagcagtga ggacgacgag gaggaaggcg aaggcgggcc 2640
 agcagagggg agcagagata cccctggggg ccgcagcgat ggggatacag acagcgtcag 2700
 caccatggtg gtccacgacg tcgaggagat caccgggacc cagcccccatt acgggggcgg 2760
 caccatggtg gtccagcgca cccctgaaga ggagcggaac ctgctgcatg ctgacagcaa 2820
 tgggtacaca aacctgcctg acgtgggtcca gccagccac tcaccaccg agaacagcaa 2880

aggccaaagc ccaccctcga aggatgggag tgggtgactac cagtctcgtg ggctggtaaa 2940
 ggcccctggc aagagctcgt tcacgatgtt tgtggatcta gggatctacc agcctggagg 3000
 cagtggggac agcatcccca tcacagccct agtgggtgga gagggcactc ggctcgacca 3060
 gctgcagtac gacgtgagga agggttctgt ggtcaacgtg aatcccacca acaccgggc 3120
 ccacagttag acccctgaga tccggaagta caagaagcga ttcaactccg agatcctctg 3180
 tgcagccctt tggggggtca acctgctggt gggcacggag aacgggctga tgttgctgga 3240
 ccgaagtggg cagggcaagg tgtatggact cattgggcgg cgacgcttcc agcagatgga 3300
 tgtgctggag gggctcaacc tgctcatcac catctcaggg aaaaggaaca aactgcgggt 3360
 gtattacctg tcctggctcc ggaacaagat tctgcacaat gaccagaag tggagaagaa 3420
 gcagggctgg accaccgtgg gggacatgga gggctgcggg cactaccgtg ttgtgaaata 3480
 cgagcggatt aagtccctgg tcctgcctcc caagagctcc gtggaggtgt atgcctgggc 3540
 ccccaaacc taccacaaat tcatggcctt caagtccttt gccgacctcc cccaccgccc 3600
 tctgctggtc gacctgacag tagaggagg gacgcggctc aaggtcatct atggctccag 3660
 tgctggcttc catgctgtgg atgtcgactc ggggaacagc tatgacatct acatccctgt 3720
 gcacatccag agccagatca cgcccatgc catcatcttc ctcccaaca cgcagggcat 3780
 ggagatgctg ctgtgctacg aggacgaggg tgtctacgtc aacacgtacg ggcgcatcat 3840
 taaggatgtg gtgctgcagt ggggggagat gcctacttct gtggcctaca tctgtccaa 3900
 ccagataatg ggctgggggt agaaagccat tgagatccgc tctgtggaga cgggccacct 3960
 cgacggggtc ttcattgaca aacgagctca gaggtcgaag ttcctgtgtg agcgggaatga 4020
 caagggtgtt tttgcctcag tccgctctgg gggcagcagc caagtttact tcatgactct 4080
 gaaccgtaac tgcacatga actggtgacg gggccctggg ctggggctgt cccacactgg 4140
 accagctct cccctgcag ccaggttcc cgggcgcgcc ctctttcccc tccctgggct 4200
 tttgctttta ctggtttgat ttcactggag cctgctggga acgtgacctc tgaccctga 4260
 tgctttcgtg atcacgtgac catcctcttc cccaacatgt cctcttccca aaactgtgcc 4320
 tgtccccagc ttctggggag ggacacagct tccccttccc aggaattgag tgggcctagc 4380
 cctccccccc ttttctccat ttgagaggag agtgcttggg gcttgaacct ctaccaccac 4440
 tgctgctgac tgggcagggc cctggacccc tttatttgca cgtcagggga gccggctccc 4500
 cccttgaatg taccagacct tggggggggg cactgggccc tagatttttg gggggtcacc 4560
 agccactcca ggggcaggga ccatttcttc attttctgaa agcactttaa tgattcccct 4620
 tccccaaac tccagggaat ggagggggga cccgcgcagc caaaacattc ccccatctcc 4680
 cgacccccct ctctcttct agcccatgcc ctccccggg ggagggaggg agcagggagc 4740

cctcactctc cacgccccctt gcttgcattc gtatatagtg tgagcagcaa gtaacccttc 4800
 tcctccctcc cccctcacc ctcctcaatg tagtggcctt ggatattcctg tttgttaata 4860
 aagacaattc aaccagctcc caccaaaaaa aaaaaaaaaa aa 4902

<210> 28

<211> 4737

<212> DNA

<213> Homo sapiens

<400> 28

atggcgggac ctgggggctg gagggacagg gaggtcacgg atctgggcca cctgccggat 60
 ccaactggaa tattctcact agataaaacc attggccttg gtacttatgg cagaatctat 120
 ttgggacttc atgagaagac tgggtgcatth acagctgtta aagtgatgaa cgctcgtaag 180
 acccctttac ctgaaatagg aaggcgagtg agagtgaata aatatcaaaa atctgttggg 240
 tggagataca gtgatgagga agaggatctc aggactgaac tcaaccttct gaggaagtac 300
 tctttccaca aaaacattgt gtccttctat ggagcatttt tcaagctgag tccccctggt 360
 cagcggcacc aactttggat ggtgatggag ttatgtgcag caggttcggt cactgatgta 420
 gtgagaatga ccagtaatca gagtttaaaa gaagattgga ttgcttatat ctgccgagaa 480
 atccttcagg gcttagctca ccttcacgca caccgagtaa ttcaccggga catcaaaggt 540
 cagaatgtgc tgctgactca taatgctgaa gtaaaactgg ttgatttttg agtgagtgcc 600
 caggtgagca gaactaatgg aagaaggaat agtttcattg ggacaccata ctggatggca 660
 cctgaggtga ttgactgtga tgaggacca agacgctcct atgattacag aagtgatgtg 720
 tggctctgtg gaattactgc cattgaaatg gctgaaggag cccctctgtg taaccttcaa 780
 cccttgaag ctctcttcgt tattttgcgg gaatctgctc ccacagtcaa atccagcgga 840
 tgggtccgta agttccacaa tttcatggaa aagtgtacga taaaaaattt cctgtttcgt 900
 cctacttctg caaacatgct tcaacaccca tttgttcggg atataaaaaa tgaacgacat 960
 gttgttgagt cattaacaag gcatcttact ggaatcatta aaaaaagaca gaaaaagga 1020
 atacctttga tctttgaaag agaagaagct attaaggaac agtacaccgt gagaagattt 1080
 agaggaccct cttgcactca cgagcttctg agattgccaa ccagcagcag atgcagacca 1140
 cttagagtcc tgcattggga accctctcag ccaaggtggc tacctgatcg agaagagcca 1200
 caggccagg cacttcagca gctacaggga gcagccaggg tattcatgcc actgcaggct 1260
 ctggacagtg cacctaagcc tctaaagggg caggctcagg cacctcaacg actacaaggg 1320
 gcagctcggg tgttcatgcc actacaggct cagggtgaagg ctaaagcctc taaacctcta 1380
 caaatgcaga ttaaggcacc tccacgacta cggagggcag ccagggtgct catgccacta 1440

caggcacagg ttagggcacc taggcttctg caggtacagt cccaggtatc caaaaagcag	1500
caggcccaga cccagacatc agaaccacaa gatttggacc aggtaccaga ggaatttcag	1560
ggtcaagatc aggtacccga acaacaaagg cagggccagg cccctgaaca acagcagagg	1620
cacaaccagg tgcctgaaca agagctggag cagaaccagg cacctgaaca gccagaggta	1680
caggaacagg ctgccgagcc tgcacaggca gagactgagg cagaggaacc tgagtcatta	1740
cgagtaaagc cccaggtatt tctgcccctg ctatcacaag atcaccatgt gctgttgcca	1800
ctacatttgg atactcaggt gctcattcca gtagaggggc aaactgaagg atcacctcag	1860
gcacaggctt ggacactaga acccccacag gcaattggct cagttcaagc actgatagag	1920
ggactatcaa gagacttgct tcgggcacca aactcaaata actcaaagcc acttgggtccg	1980
ttgcaaacc tgatggaaaa tctgtcatca aataggtttt actcacaacc agaacaggca	2040
cgggagaaaa aatcaaaagt ttctactctg aggcaagcac tggcaaaaag actatcacca	2100
aagaggttca gggcaaagtc atcatggaga cctgaaaagc ttgaactctc ggatttagaa	2160
gccccgaggc aaaggcgcca acgcagatgg gaagatatct ttaatcagca tgaggaagaa	2220
ttgagacaag ttgataagga caaagaagat gaatcatcag acaatgatga agtatttcat	2280
tcgattcagg ctgaagtcca gatagagcca ttgaagccat acatttcaa tcctaaaaaa	2340
attgagggtc aagagagatc tccttctgtg cctaacaacc aggatcatgc acatcatgtc	2400
aagttctctt caagcgttcc tcagcgttct cttttggaac aagctcagaa gccattgac	2460
atcagacaaa ggagttcgca aaatcgtcaa aattggctgg cagcatcaga atcttcttct	2520
gaggaagaaa gtcctgtgac tggaaggagg tctcagtcac caccacctta ttctactatt	2580
gatcagaagt tgctggttga catccatgtt ccagatggat ttaaagtagg aaaaatatca	2640
ccccctgtat acttgacaaa cgaatgggta ggctataatg cactctctga aatcttccgg	2700
aatgattggc taactccggc acctgtcatt cagccacctg aagaggatgg tgattatggt	2760
gaactctatg atgccagtgc tgatactgat ggtgatgatg atgatgagtc taatgatact	2820
tttgaagata cctatgatca tgccaatggc aatgatgact tggataacca ggttgatcag	2880
gctaagatg tttgtaaaga ccatgatgat gacaacaata agtttggtga tgatgtaaat	2940
aataattatt atgaggcgcc tagttgtcca agggcaagct atggcagaga tggaagctgc	3000
aagcaagatg gttatgatgg aagtcgtgga aaagaggaag cctacagagg ctatggaagc	3060
catacagcca atagaagcca tggaggaagt gcagccagtg aggacaatgc agccattgga	3120
gatcaggaag aacatgcagc caatataggc agtgaaagaa gaggcagtga gggatgatga	3180
ggtaagggag tcgttcgaac cagtgaagag agtggagccc ttggactcaa tggagaagaa	3240
aattgctcag agacagatgg tccaggattg aagagacctg cgtctcagga ctttgaatat	3300

ctacaggagg agccagggtgg tggaaatgag gcctcaaatg ccattgactc aggtgctgca 3360
 ccgtcagcac ctgatcatga gagtgacaat aaggacatat cagaatcatc aacacaatca 3420
 gatttttctg ccaatcactc atctccttcc aaaggttctg ggatgtctgc tgatgctaac 3480
 tttgccagtg ccatctacgc tggattcgta gaagtacctg aggaatcacc taagcaaccc 3540
 tctgaagtca atgttaaccc actctatgtc tctcctgcat gtaaaaaacc actaatccac 3600
 atgtatgaaa aggagttcac ttctgagatc tgctgtgggt ctttgtgggg agtcaatttg 3660
 ctgttgggaa cccgatctaa tctatatctg atggacagaa gtggaaaggc tgacattact 3720
 aaacttataa ggcaagacc attccgccag attcaagtct tagagccact caatttgctg 3780
 attaccatct caggtcataa gaacagactt cgggtgtatc atctgacctg gttgaggaa 3840
 aagattttga ataattgatcc agaaagtaaa agaaggcaag aagaaatgct gaagacagag 3900
 gaagcctgca aagctattga taagttaaca ggctgtgaac acttcagtgt ccaacatgaa 3960
 gaaacaacat atattgcaat tgctttgaaa tcatcaattc acctttatgc atgggaccca 4020
 aagtcctttg atgaaagcac tgctattaaa gtatgcattg atcaatcagc agactctgaa 4080
 ggagactaca tgtcctatca agcctatata cgaatactgg caaaaataca ggcagctgat 4140
 ccagtgaacc ggtttaagag accagatgag ctcttcatt tgctgaagct caaggatttt 4200
 ccaacacttg atcataagcc agtgacagtt gacctggcta ttggttctga aaaagacta 4260
 aagattttct tcagctcagc agatggatat cacctcatcg atgcagaatc tgaggttatg 4320
 tctgatgtga ccctgcaaaa gaatcccctg gaaatcatta taccacagaa tatcatcatt 4380
 ttacctgatt gcttgggaat tggcatgatg ctacacttca atgctgaagc cctctctgtg 4440
 gaagcaaatg aacaactctt caagaagatc cttgaaatgt ggaaagacat accatcttct 4500
 atagcttttg aatgtacaca gcgaaccaca ggatggggcc aaaaggccat tgaagtgcgc 4560
 tctttgcaat ccagggttct ggaaagtgag ctgaagcgca ggtcaattaa gaagctgaga 4620
 ttcctgtgca cccgggtgta caagctgttc ttacctcta ccctgcgcaa tcaccacagc 4680
 cgggtttact tcatgacact tggaaaactt gaagagctcc aaagcaatta tgatgtc 4737

<210> 29

<211> 942

<212> DNA

<213> Homo sapiens

<400> 29

aatcatcaat tcacctttat gcatgggcac caaagtcctt tgatgaaagc actgctatta 60
 aagtatttcc aacacttgat cataagccag tgacagttga cctggctatt ggttctgaaa 120
 aaagactaaa gattttcttc agctcagcag atggatatca cctcatcgat gcagaatctg 180
 aggttatgtc tgatgtgacc ctgccaaaga atcccctgga aatcattata ccacagaata 240


```

tcatcatttt acctgattgc ttgggaattg gcatgatgct caccttcaat gctgaagccc 300
tctctgtgga agcaaatgaa caactcttca agaagatcct tgaaatgtgg aaagacatac 360
catcttctat agcttttgaa tgtacacagc gaaccacagg atggggccaa aaggccattg 420
aagtgcgctc tttgcaatcc agggttcttg aaagtgagct gaagcgagg tcaattaaga 480
agctgagatt cctgtgcacc cggggtgaca agctgttctt tacctctacc ctgcgcaatc 540
accacagccg ggtttacttc atgacacttg gaaaacttga agagctccaa agcaattatg 600
atgtctaaaa gtttccagtg atttattacc acattataaa catcatgtat aggcagtctg 660
catcttcaga tttcagagat taaatgagta ttcagtttta tttttagtaa agattaaatc 720
caaaacttta cttttaatgt agcacagaat agttttaatg agaaatgcag ctttatgtat 780
aaaattaact atagcaagct ctaggtactc caatgggtga caatgtcttt tgcacaaact 840
ttgtaacttt tgttactgtg aattcaaaca ttactctttg gacagtttg acagtatctg 900
tattcagatt ttacaacatg gagtaaagaa acctgttatg aa 942

```

```

<210> 30
<211> 513
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (507)..(507)
<223> n is a, c, g, or t

```

```

<400> 30
ccttctagct tcttcgtctc caggactgac gctcaggctc ctctctcgcc ttagcccaac 60
ttgcttcccc gcctcgcaaa ctccggttcc cctccactcc caactctttt cactacacgt 120
ttccccctct ctatctccca cgccacgaac cccgatcccc agactcctct ctccccccct 180
cctccttctc ctctcctccc ttcaactctt catccgcttc cacctcagac tctgcgcgca 240
cccaattcag tcgcccgcgc ccgttcggct cctcgaagcc atggcgggac ctgggggctg 300
gagggacagg gaggtcacgg atctgggcca cctgccggat ccaactggaa tattctcact 360
agataaaacc attggcatgg tacttatggc agaatctatt tgggacttca tgagaagact 420
gggtgcattta cagctgttaa agtgatgaac gctcgtaaga cccctttacc tgaaatagga 480
aggcgagtga gagtgaataa atatcanaaa tct 513

```

```

<210> 31
<211> 8082
<212> DNA
<213> Homo sapiens

```

<400> 31
 ggacagcgct ctgcacacgg agcacccttc tagcttcttc gtctccagga ctgacgctca 60
 ggctcctctc tcgccttagc ccaacttget ttcccgcttc gcaaactccg gtttccctcc 120
 actcccaact cttttcacta caggtttccc ctctctatc tcccacgcca cgaaccccgga 180
 tccccagact cctctctccc gccctcctcc ttctctctc ctcccttcaa ctcttcatcc 240
 gcttccacct cagactctgc gcgcacccaa ttcagtcgcc cgctcccgtt cggctcctcg 300
 aagccatggc gggacctggg ggctggaggg acagggaggt cacggatctg ggccacctgc 360
 cggatccaac tggaatatc tcactagata aaaccattgg ccttggtact tatggcagaa 420
 tctatttggg acttcatgag aagactggtg catttacagc tgtaaagt atgaacgctc 480
 gtaagacccc ttacctgaa ataggaaggc gagtgcaggt gaataaatat caaaaatctg 540
 ttgggtggag atacagtgat gaggaagagg atctcaggac tgaactcaac cttctgagga 600
 agtactcttt ccacaaaaac attgtgtcct tctatggagc atttttcaag ctgagtcctc 660
 ctggtcagcg gcaccaactt tggatggtga tggagttatg tgcagcaggt tcggtcactg 720
 atgtagttag aatgaccagt aatcagagtt taaaagaagg ttggattgct tatatctgcc 780
 gagaaatcct tcagggctta gctcacctc acgcacaccg agtaattcac cgggacatca 840
 aaggtcagaa tgtgctgctg actcataatg ctgaagtaa actgggtgat tttggagtga 900
 gtgcccaggt gagcagaact aatggaagaa ggaatagttt cattgggaca ccatactgga 960
 tggcacctga ggtgattgac tgtgatgagg acccaagacg ctctatgat tacagaagtg 1020
 atgtgtggtc tgtgggaatt actgccattg aaatggctga aggagcccct cctctgtgta 1080
 accttcaacc cttggaagct ctcttcgtta ttttgcggga atctgctccc acagtcaaat 1140
 ccagcggatg gtcccgtaa ttccacaatt tcatggaaaa gtgtacgata aaaaatttcc 1200
 tgtttcgtcc tacttctgca aacatgcttc aacaccatt tgttcgggat ataaaaaatg 1260
 aacgacatgt tgttgagtca ttaacaaggc atcttactgg aatcattaaa aaaagacaga 1320
 aaaaaggaat acctttgatc tttgaaagag aagaagctat taaggaacag tacaccgtga 1380
 gaagattcag aggaccctct tgcactcacg agcttctgag attgccaacc agcagcagat 1440
 gcagaccact tagagtctg catggggaac cctctcagcc aaggtggcta cctgatcgag 1500
 aagagccaca ggtccaggca cttcagcagc tacagggagc agccagggtta ttcatgccac 1560
 tgcaggctct ggacagtga cctaagcctc taaaggggca ggctcaggca cctcaacgac 1620
 tacaaggggc agctcgggtg ttcatgccac tacaggtca ggtgaaggct aaggcctcta 1680
 aacctctaca aatgcagatt aaggcacctc cagactacg gagggcagcc aggggtgctca 1740
 tgccactaca ggcacagggt agggcaccta ggcttctgca ggtacagtcc caggtatcca 1800
 aaaagcagca ggcccagacc cagacatcag aaccacaaga tttggaccag gtaccagagg 1860

aatttcagag tcaagatcag gtacccgaac aacaaaggca gggccaggcc cctgaacaac 1920
agcagaggca caaccagggtg cctgaacaag agctggagca gaaccaggca cctgaacagc 1980
cagaggtaca ggaacaggct gccgagcctg cacaggcagg gactgaggca gaggaacctg 2040
agtcattacg agtaaatgcc cagggtatttc tgcccctgct atcacaagat caccatgtgc 2100
tgttgccact acatttggtg actcagggtgc tcattccagt agagggggcaa actgaaggat 2160
cacctcaggc acaggcttgg aactagagc cccacaggc aattgggtca gttcaagcac 2220
tgatagaggg actatcaaga gacttgcttc gggcgccaaa ctcaaataac tcaaagccac 2280
ttggtccgtt gcaaaccctg atggaaaatc tgtcatcaaa taggttttac tcacaaccag 2340
aacaggcacg ggagaaaaaa tcaaaagttt ctactctgag gcaagcactg gcaaaaagac 2400
tatcaccaaa gaggttcggg gcaaagtcac catggagacc tgaaaagctt gaactctcgg 2460
attdagaagc ccgcaggcaa aggcgccaac gcagatggga agatatcttt aatcagcatg 2520
aggaagaatt gagacaagtt gataaagaca aagaagatga atcatcagac aatgatgaag 2580
tatttcattc gattcaggct gaagtcacga tagagccatt gaagccatac atttcaaadc 2640
ctaaaaaat tgaggttcaa gagagatctc cttctgtgcc taacaaccag gatcatgcac 2700
atcatgtcaa gttctcttca agcgttcctc agcgggtctc tttggaacaa gctcagaagc 2760
ccattgacat cagacaaagg agttcgcaaa atcgtcaaaa ttggctggca gcatcagaat 2820
cttcttctga ggaagaaagt cctgtgactg gaaggaggtc tcagtcatca ccaccttatt 2880
ctactattga tcagaagttg ctggttgaca tccatgttcc agatggattt aaagtaggaa 2940
aaatatcacc ccctgtatac ttgacaaacg aatgggtagg ctataatgca ctctctgaaa 3000
tcttccggaa tgattggta actccggcac ctgtcattca gccacctgaa gaggatgggtg 3060
attatgttga actctatgat gccagtgtg atactgatgg tgatgatgat gatgagtcta 3120
atgatacttt tgaagatacc tatgatcatg ccaatggcaa tgatgacttg gataaccagg 3180
ttgatcaggc taatgatgtt tgtaaagacc atgatgatga caacaataag tttgttgatg 3240
atgtaaataa taattattat gaggcgccta gttgtccaag ggcaagctat ggcagagatg 3300
gaagctgcaa gcaagatggt tatgatggaa gtcgtggaaa agaggaagcc tacagaggct 3360
atggaagcca tacagccaat agaagccatg gaggaagtgc agccagtga gacaatgcag 3420
ccattggaga tcaggaagaa catgcagcca atataggcag tgaaagaaga ggcagtgaag 3480
gtgatggagg taaggagtc gttcgaacca gtgaagagag tggagccctt ggactcaatg 3540
gagaagaaaa ttgctcagag acagatggtc caggattgaa gagacctgcg tctcaggact 3600
ttgaatatct acaggaggag ccagggtggtg gaaatgaggc ctcaaagcc attgactcag 3660
gtgctgcacc gtcagcacct gatcatgaga gtgacaataa ggacatatca gaatcaccaa 3720

cacaatcaga tttttctgcc aatcactcat ctccttccaa aggttctggg atgtctgctg	3780
atgctaactt tgccagtgcc atcttatagc ctggattcgt agaagtacct gaggaatcac	3840
ctaagcaacc ctctgaagtc aatgttaacc cactctatgt ctctcctgca tgtaaaaaac	3900
cactaatcca catgtatgaa aaggagtcca cttctgagat ctgctgcggt tctttgtggg	3960
gagtcaattt gctgttgga acccgatcta atctatatct gatggacaga agtggaag	4020
ctgacattac taaacttata aggcgaagac cattccgcca gattcaagtc ttagagccac	4080
tcaatttgct gattaccatc tcaggtcata agaacagact tcgggtgtat catctgacct	4140
ggttgaggaa caagattttg aataatgac cagaaaagtaa aagaaggcaa gaagaaatgc	4200
tgaagacaga ggaagcctgc aaagctattg ataagttaac aggctgtgaa cacttcagtg	4260
tcctccaaca tgaagaaaca acatatattg caattgcttt gaaatcatca attcaccttt	4320
atgcatgggc accaaagtcc tttgatgaaa gcactgctat taaagtatgc attgatcaat	4380
cagcagactc tgaaggagac tacatgtcct atcaagccta tatacgaata ctggcaaaaa	4440
tacaggcagc tgatccagtg aaccggttta agagaccaga tgagctcctt catttgctga	4500
agctcaaggt atttccaaca cttgatcata agccagtgac agttgacctg gctattgggt	4560
ctgaaaaaag actaaagatt ttcttcagct cagcagatgg atatcacctc atcgatgcag	4620
aatctgaggt tatgtctgat gtgacctgc caaagaatcc cctggaaatc attataccac	4680
agaatatcat cattttacct gattgcttgg gaattggcat gatgctcacc ttcaatgctg	4740
aagccctctc tgtggaagca aatgaacaac tcttcaagaa gatccttgaa atgtggaaag	4800
acataccatc ttctatagct tttgaatgta cacagcgaac cacaggatgg ggccaaaagg	4860
ccattgaagt gcgctctttg caatccaggg ttctggaaag tgagctgaag cgcagggtcaa	4920
ttaagaagct gagattcctg tgcacccggg gtgacaagct gttctttacc tctaccctgc	4980
gcaatcacca cagccgggtt tacttcatga cacttggaac acttgaagag ctccaaagca	5040
attatgatgt ctaaaagttt ccagtgattt attaccacat tataaacatc atgtataggc	5100
agtctgcac ttcagatttc agagattaaa tgagtattca gttttatttt tagtaaagat	5160
taaatccaaa actttacttt taatgtagca cagaatagtt ttaatgagaa atgcagcttt	5220
atgtataaaa ttaactatag caagctctag gtactccaat ggtgtacaat gtcttttgca	5280
caaactttgt aacttttggt actgtgaatt caaacattac tctttggaca gtttgacag	5340
tatctgtatt cagattttac aacatggagt aaagaaacct gttatgaatt agattacaag	5400
cagccttcaa aagaattggc actgggataa gatttttcag aaaaagaaaa acatcggcaa	5460
actgtgtgtg atttttccaa agctatataa agaaccaaag gtttagtcaa gaaacaaaaa	5520
tcttaaagat tattataacc cagactaagg ttgaacaacc tgcattgcca gagaaaacta	5580

tggcgacaaa	ggggaaaagg	ccaccactcg	ttttctcact	gattcatgcc	aattaagcct	5640
acagttaaag	accagttttg	ttcttttcac	ccatttttaa	gctggttttc	tcctgataag	5700
aagaaaggaa	gaaagcccca	gacgcttgg	ttttctcaga	acccccaaaa	gatgtgcaat	5760
agctgttgtt	acaaaccacc	aaataataca	gttgtgagcc	tgaatacagg	actgaactcc	5820
tatacacgtg	tactgtagaa	tgagtatttt	ttaatacctt	aaggtaggcg	tcaaattcta	5880
ctccccaag	cagagatgga	ttgatttata	aaaattatta	tctggccaac	agtgtgacta	5940
tcagacagca	tcaaataatt	gcccaatcca	agattagact	acacaaaagc	ttccttccag	6000
tattaaacaa	aaagaattaa	acataactat	gaaaaaactt	tgctaataat	tgtgtttttc	6060
agatttcatt	ttttgtaaaa	tcagaaatta	atctaaacat	attcagtgat	aagtccatgt	6120
gtaacgactt	aatgttaaag	gttaaaaaaa	agatttcaca	aaatatacaa	ctttcaccat	6180
atatataagc	ctgcaaaatt	agagtagtga	aagtcatgct	agtcctatcac	ccaaatatgt	6240
tatagacgcc	atagacaggt	gatgtttgg	cacctatggt	aactgctacc	tgatgaagag	6300
cataatttct	gcatatccat	cctcaatacc	atggtaaatt	ctggggcaat	agagaagcaa	6360
cagaactgcc	acaaagtata	cctcaatata	attcctctag	ttctgcttct	aaaatctgag	6420
gacagtgcta	gtgggaaaat	aattttcaaa	ctacctggtt	aaccaaata	caaaagcagc	6480
tgactatgtg	tgatttcata	atagcacatt	tcttgacact	tagtgctaga	aatgaagatt	6540
tggttttcc	taacaactta	catcaagaat	gtagtgtagc	tcattattga	gaatttagga	6600
aagcctgaat	ccattaatta	aggaaataaa	tgtgactcac	atttctttta	ctgtgacaca	6660
ataatgtgat	cctaaaactg	gcttatcctt	gagtgtttac	aactcaaaca	actttttgaa	6720
tgacgtagtt	tttttttttt	aaaaacaaac	ttttatgtca	aatttttttt	cttagaagta	6780
gtcttcatta	ttataaat	gtacaccaaa	aggccatggg	gaactttgtg	caagtacctc	6840
atcgctgagc	aatgggagct	tgctatgttt	taatttcaga	aaatttcctc	atatacgtag	6900
tgtgtagaat	caagtctttt	aataattcat	ttttcttcca	taatatttac	tcaaagttaa	6960
gcttaaaaat	aagttttata	ttaaaatcat	atttgaagac	agtaagacag	taaactat	7020
taggaagtca	acccccattg	cactctgtgg	cagttattct	ggtaaaaata	ggcaaaagt	7080
acctgaatct	acaatgatgt	cccaaagtaa	ccaagtaaga	gagattgtaa	atgataaacc	7140
gagctttaaa	ggataaagt	ttaataaaga	aaggaagctg	ggcacatgtc	aaaaagggag	7200
atcgaaatgt	taggtaatca	tttagaaagg	acagaaaata	tttaaagtgg	ctcataggta	7260
atgaatattt	ctgacttaga	tgtaaatacca	tctggaatct	ttacatcctt	tgccagctga	7320
aacaagaaag	tgaagggaca	atgatatttc	atggtcagtt	tattttgtaa	gagacagaag	7380
aaattatata	tatacattac	cttgtagcag	cagtacctgg	aagccccagc	ccgtcacaga	7440

```

agtgtggagg ggggctcctg actagacaat ttccctagcc cttgtgattt gaagcatgaa 7500
agttctggca ggttatgagc agcactaggg ataaagtatg gttttatttt ggtgtaattt 7560
agggtttttca acaaagccct tgtctaaaat aaaaggcatt attggaaata tttgaaaact 7620
agaaaatgat ggataaaagg gctgataaga aaatttcttg ctgtcagtag aagtgagata 7680
agatcctcag aggaaacagt aagaagggat aatcattaag atagtaaaac aggcaaagca 7740
gaatcacatg tgcacacaca catacacatg taaacattgg aatgcataag ttttaatat 7800
ttagcgctat cagtttctaa atgcattaat tactaactgc cctctcccaa gattcattta 7860
gttcaaacag tatccgtaaa ctaggaataa tgccacatgc attcaatggg accttttaag 7920
tactcttcag tttgttccaa gaaatgtgcc tactgaaatc aaattaattt gtattcaatg 7980
tgtacttcaa gactgcta atgtttcatct gaaagcctac aatgaatcat tgttcaacct 8040
tgaaaaataa aattttgtaa atcaaaaaaa aaaaaaaaaa aa 8082

```

```

<210> 32
<211> 4880
<212> DNA
<213> Homo sapiens

```

```

<400> 32
tcactatagg gcgaattggg ccctctagat gcatgctcga gcggccgcca gtgtgatgga 60
tatctgcaga attcgccctt agactctgcg cgcacccaat tcagtcgccc gctcccgttc 120
ggctcctcga agccatggcg ggacctgggg gctggaggga cagggagggtc acggatctgg 180
gccacctgcc ggatccaact ggaatattct cactagataa aaccattggc cttggtactt 240
atggcagaat ctatttggga cttcatgaga agactggtgc atttacagct gttaaagtga 300
tgaacgctcg taagaccctt ttacctgaaa taggaaggcg agtgagagtg aataaatatc 360
aaaaatctgt tgggtggaga tacagtgatg aggaagagga tctcaggact gaactcaacc 420
ttctgaggaa gtactctttc cacaaaaaca ttgtgtcctt ctatggagca tttttcaagc 480
tgagtcccc tggtcagcgg caccaacttt ggatggtgat ggagttatgt gcagcagggt 540
cggtcactga tgtagtgaga atgaccagta atcagagttt aaaagaagat tggattgctt 600
atatctgccc agaaatcctt cagggttag ctcaccttca cgcacaccga gtaattcacc 660
gggacatcaa aggtcagaat gtgctgctga ctcataatgc tgaagtaaaa ctgggtgatt 720
ttggagttag tgcccagggt agcagaacta atggaagaag gaatagtttc attgggacac 780
catactggat ggcacctgag gtgattgact gtgatgagga cccaagacgc tcctatgatt 840
acagaagtga tgtgtggtct gtgggaatta ctgccattga aatggctgaa ggagcccctc 900
ctctgtgtaa ccttcaacct ttggaagctc tcttcgttat tttgcgggaa tctgctccca 960

```

cagtcaaadc cagcggatgg tcccgttaagt tccacaattt catggaaaag tgtacgataa 1020
 aaaatttcct gtttcgtcct acttctgcaa acatgcttca acacccattt gttcgggata 1080
 taaaaaatga acgacatgtt gttgagtcac taacaaggca tcttactgga atcattaaaa 1140
 aaagacagaa aaaaggaata cctttgatct ttgaaagaga agaagctatt aaggaacagt 1200
 acaccgtgag aagattcaga ggaccctctt gcactcacga gcttctgaga ttgccaacca 1260
 gcagcagatg cagaccactt agagtcctgc atggggaacc ctctcagcca aggtggctac 1320
 ctgatcgaga agagccacag gtccaggcac ttcagcagct acagggagca gccagggtat 1380
 tcatgccact gcaggctctg gacagtgcac ctaagcctct aaaggggcag gctcaggcac 1440
 ctcaacgact acaaggggca gctcgggtgt tcatgccact acaggctcag gtgaaggcta 1500
 aggcctctaa acctctacaa atgcagatta aggcacctcc acgactacgg agggcagcca 1560
 ggggtgctcat gccactacag gcacaggcta gggcacctag gcttctgcag gtacagtccc 1620
 aggtatccaa aaagcagcag gccagaccc agacatcaga accacaagat ttggaccagg 1680
 taccagagga atttcagggc caagatcagg taccgaaca acaaaggcag ggccaggccc 1740
 ctgaacaaca gcagaggcac aaccaggctg ctgaacaaga gctggagcag aaccaggcac 1800
 ctgaacagcc agaggtacag gaacaggctg ccgagcctgc acaggcagag actgaggcag 1860
 aggaacctga gtcattacga gtaaatgcc aggtatttct gccctgcta tcacaagatc 1920
 accatgtgct gttgccacta catttgata ctccaggtgt cattccagta gaggggcaaa 1980
 ctgaaggatc acctcaggca caggcttggc cactagaacc cccacaggca attggctcag 2040
 ttcaagcact gatagagga ctatcaagag acttgcttcg ggcaccaaac tcaaataact 2100
 caaagccact tggtcggtg caaacctga tggaaaatct gtcacaaat aggttttact 2160
 cacaaccaga acaggcacgg gagaaaaaat caaaagtctt tactctgagg caagcactgg 2220
 caaaaagact atcaccaaag aggttcaggc caaagtcac atggagacct gaaaagcttg 2280
 aactctcgga tttagaagcc cgcaggcaaa ggcgccaacg cagatgggaa gatattctta 2340
 atcagcatga ggaagaattg agacaagttg ataaagacaa agaagatgaa tcatcagaca 2400
 atgatgaagt atttcattcg attcaggctg aagtcagat agagccattg aagccataca 2460
 tttcaaactc taaaaaatt gaggttcaag agagatctcc ttctgtgcct aacaaccagg 2520
 atcatgcaca tcatgtcaag ttctcttcaa gcgttctca gcggtctcag tcatcaccac 2580
 cttattctac tattgatcag aagttgtgg ttgacatcca tgttcagat ggatttaaag 2640
 taggaaaaat atcacccct gtatacttga caaacgaatg ggtaggctat aatgcactct 2700
 ctgaaatctt ccggaatgat tggttaactc cggcacctgt cattcagcca cctgaagagg 2760
 atgggtgatta tgttgaactc tatgatgcca gtgctgatac tgatgggtgat gatgatgatg 2820

agtctaata	ga	tacttttgaa	gataacctatg	atcatgccaa	tggaatgat	gacttggata	2880
accagggttga	tcaggcta	aat	gatgtttgta	aagaccatga	tgatgacaac	aataagtttg	2940
ttgatgatgt	aaataata	aat	tattatgagg	cgcctagttg	tccaagggca	agctatggca	3000
gagatggaag	ctgcaagcaa	gatggttatg	atggaagtcg	tggaagag	gaagcctaca		3060
gaggctatgg	aagccataca	gccaatagaa	gccatggagg	aagtgcagcc	agtgaggaca		3120
atgcagccat	tggaatcag	gaagaacatg	cagccaatat	aggcagtga	agaagaggca		3180
gtgaggggtga	tggaagtaag	ggagtcgttc	gaaccagtga	agagagtga	gcccttggac		3240
tcaatggaga	agaaaattgc	tcagagacag	atggtccagg	attgaagaga	cctgcgtctc		3300
aggactttga	atatctacag	gaggagccag	gtgggtgaaa	tgaggcctca	aatgccattg		3360
actcaggtgc	tgaccgtca	gcacctgatc	atgagagtga	caataaggac	atatcagaat		3420
catcaacaca	atcagat	ttt	tctgccaatc	actcatctcc	ttccaaaggt	tctgggatgt	3480
ctgctgatgc	taactttgcc	agtgccatct	tatacgctgg	attcgtagaa	gtacctgagg		3540
aatcacctaa	gcaaccctct	gaagtcaatg	ttaaccact	ctatgtctct	cctgcatgta		3600
aaaaaccact	aatccacatg	tatgaaaagg	agttcacttc	tgagatctgc	tgtggttctt		3660
tgtggggagt	caatttgctg	ttgggaaccc	gatctaactct	atatctgatg	gacagaagtg		3720
gaaaggctga	cattactaaa	cttataaggc	gaagaccatt	ccgccagatt	caagtcttag		3780
agccactcaa	tttgcgtgatt	accatctcag	gtcataagaa	cagacttcgg	gtgtatcatc		3840
tgacctgggt	gaggaacaag	attttgaata	atgatccaga	aagtaaaaga	aggcaagaag		3900
aatgctgaa	gacagaggaa	gcctgcaaag	ctattgataa	gttaacaggc	tgtgaacact		3960
tcagtgttct	ccaacatgaa	gaaacaacat	atattgcaat	tgctttgaaa	tcatcaattc		4020
acctttatgc	atgggcacca	aagtcctttg	atgaaagcac	tgctattaaa	gtatttccaa		4080
cacttgatca	taagccagtg	acagttgacc	tggtctattg	ttctgaaaaa	agactaaaga		4140
ttttcttcag	ctcagcagat	ggatatcacc	tcatcgatgc	agaatctgag	gttatgtctg		4200
atgtgacct	gccaaagaat	cccctggaaa	tcattatacc	acagaatc	atcattttac		4260
ctgattgctt	gggaattggc	atgatgctca	ccttcaatgc	tgaagccctc	tctgtggaag		4320
caaatgaaca	actcttcaag	aagatccttg	aatgtggaa	agacatacca	tcttctatag		4380
cttttgaatg	tacacagcga	accacaggat	ggggccaaaa	ggccattgaa	gtgcgctctt		4440
tgcaatccag	ggttctggaa	agtgagctga	agcgcaggtc	aattaagaag	ctgagattcc		4500
tgtgcacccg	gggtgacaag	ctgttcttta	cctctaccct	gcgcaatcac	cacagccggg		4560
tttacttcat	gacacttggg	aaacttgaag	agctccaaag	caattatgat	gtctaaaagt		4620
ttccagtgat	ttattaccac	attataaaca	tcatgtatag	gcagtctgca	tcttcagatt		4680

tcagagatta aatgagtatt cagttttatt tttagtaaag attaaatcca aaactttact 4740
 tttaatgtag cacagaatag ttttaatgag aaatgcagct ttatgtataa aattaactat 4800
 agcaagctct aggtactcca atggaagggc gaattccagc aactggcgg ccgttactag 4860
 tggatccgag ctcggtacca 4880

<210> 33

<211> 4853

<212> DNA

<213> Homo sapiens

<400> 33

ggaattgtga gcggataaca atttcacaca gaaacagct atgaccatga ttacgccaaag 60
 ctatttaggt gacactatag aatactcaag ctatgcatca agcttggtac cgagctcgga. 120
 tccactagta acggccgcca gtgtgctgga attcgccctt agactctgcg cgcacccaat 180
 tcagtcgccc gctcccggtc ggctcctcga agccatggcg ggacctgggg gctggagggga 240
 cagggagggtc acggatctgg gccacctgcc ggaatattct cactagataa 300
 aaccattggc cttggtactt atggcagaat ctatttggga cttcatgaga agactggtgc 360
 atttacagct gttaaagtga tgaacgctcg taagaccctt ttacctgaaa taggaaggcg 420
 agtgagagtg aataaatatc aaaaatctgt tgggtggaga tacagtgatg aggaagagga 480
 tctcaggact gaactcaacc ttctgaggaa gtactctttc cacaaaaaca ttgtgtcctt 540
 ctatggagca tttttcaagc tgagtcccc tggtcagcgg caccaacttt ggatggtgat 600
 ggagttatgt gcagcagggt cggtcactga tgtagtgaga atgaccagta atcagagttt 660
 aaaagaagat tggattgctt atatctgccg agaaatcctt cagggcttag ctcaccttca 720
 cgcacaccga gtaattcacc gggacatcaa aggtcagaat gtgctgctga ctcataatgc 780
 tgaagtaaaa ctggttgatt ttggagtga tgcccagggt agcagaacta atggaagaag 840
 gaatagtttc attgggacac catactggat ggcacctgag gtgattgact gtgatgagga 900
 cccaagacgc tcctatgatt acagaagtga tgtgtggtct gtgggaatta ctgccattga 960
 aatggctgaa ggagccctc ctctgtgtaa cttcaaccc ttggaagctc tcttcgttat 1020
 tttgcgggaa tctgtcccca cagtcaaac cagcgatgg tcccgttaagt tccacaattt 1080
 catggaaaag tgtacgataa aaaatttctt gtttcgtctt acttctgcaa acatgcttca 1140
 acacccattt gttcgggata taaaaaatga acgacatgtt gttgagtcac taacaaggca 1200
 tcttactgga atcattaaaa aaagacagaa aaaaggaata cttttagatc ttgaaagaga 1260
 agaagctatt aaggaacagt acaccgtgag aagattcaga ggacctctt gcactcacga 1320
 gcttctgaga ttgccaacca gcagcagatg cagaccactt agagtcctgc atggggaacc 1380
 ctctcagcca aggtgggtac ctgatcgaga agagccacag gtccaggcac ttcagcagct 1440

acagggagca gccaggggat tcatgccact gcaggtcttg gacagtgcac ctaagcctct 1500
 aaaggggcag gctcaggcac ctcaacgact acaaggggca gtcgggtgt tcatgccact 1560
 acaggtcag gtgaaggcta aggcctctaa acctctacaa atgcagatta aggcacctcc 1620
 acgactacgg agggcagcca ggggtgctcat gccactacag gcacaggtta gggcacctag 1680
 gcttctgcag gtacagtccc aggtatccaa aaagcagcag gccagacccc agacatcaga 1740
 accacaagat ttggaccagg taccagagga atttcagggt caagatcagg taccggaaca 1800
 acaaaggcag ggccaggccc ctgaacaaca gcagaggcac aaccagggtgc ctgaacaaga 1860
 gctggagcag aaccaggcac ctgaacagcc agaggtagc gaacagggtg ccgagcctgc 1920
 acaggcagag actgaggcag aggaacctga gtcattacga gtaaagccc aggtatttct 1980
 gccctgcta tcacaagatc accatgtgct gttgccacta catttggata ctgagggtct 2040
 cattccagta gaggggcaaa ctgaaggatc acctcaggca caggcttga cactagaacc 2100
 cccacaggca attggctcag ttcaagcact gatagaggga ctatcaagag acttgcttcg 2160
 ggcacaaaac tcaataact caaagccact tggccgttg caaacctga tggaaaatct 2220
 gtcataaat aggttttact cacaaccaga acaggcacgg gagaaaaaat caaagtttc 2280
 tactctgagg caagcactgg caaaaagact atcaccaaag aggttcaggg caaagtcac 2340
 atggagacct gaaaagcttg aactctcgga tttagaagcc cgcaggcaaa ggcgccaacg 2400
 cagatgggaa gatatttta atcagcatga ggaagaattg agacaagttg ataaagacaa 2460
 agaagatgaa tcatcagaca atgatgaagt atttcattcg attcaggctg aagtcagat 2520
 agagccattg aagccataca ttcaaatcc taataaaatt gaggttcaag agagatctcc 2580
 ttctgtgctt aacaaccagg atcatgcaca tcatgtcaag ttctcttcaa gcgttcctca 2640
 gcgtctctt ttggaacaag ctcaagacc cattgacatc agacaaagga gttcgcaaaa 2700
 tcgtcaaat tggctggcag catcagaatc ttcttctgag gaagaaagtc ctgtgactgg 2760
 aaggagggtc cagtcacac caccttattc tactattgat cagaagttgc tggttgacat 2820
 ccatgttcca gatggattta aagtaggaaa aatatcacc cctgtatact tgacaaacga 2880
 atgggtaggc tataatgcac tctctgaaat cttccggaat gattgggtta ctccggcacc 2940
 tgtcattcag ccacctgaag aggatggtga ttatggtgaa ctctatgatg ccagtgtga 3000
 tactgatggt gatgatgatg atgagtctaa tgatactttt gaagatacct atgatcatgc 3060
 caatggcaat gatgacttgg ataaccagggt tgatcaggct aatgatgttt gtaaagacca 3120
 tgatgatgac aacaataagt ttgttgatga tgtaaataat aattattatg aggcgcctag 3180
 ttgtccaagg gcaagctatg gcagagatgg aagctgcaag caagatgggt atgatggaag 3240
 tcgtggaaaa gaggaagcct acagaggcta tggaagccat acagccaata gaagccatgg 3300

aggaagtgca gccagtgagg acaatgcagc cattggagat caggaagaac atgcagccaa 3360
 tataggcagt gaaagaagag gcagtgaggg tgatggaggt aagggagtcg ttcgaaccag 3420
 tgaagagagt ggagcccttg gactcaatgg agaagaaaat tgctcagaga cagatggtcc 3480
 aggattgaag agacctgcgt ctgaggactt tgaatatcta caggaggagc cagggtggtgg 3540
 aaatgagggc tcaaatgcc a ttgactcagg tgctgcaccg tcagcacctg atcatgagag 3600
 tgacaataag gacatatcag aatcatcaac acaatcagat ttttctgcc a atcactcatc 3660
 tccttccaaa ggttctggga tgtctgctga tgctaacttt gccagtgcc a tcttatacgc 3720
 tggattcgta gaagtacctg aggaatcacc taagcaaccc tctgaagtca atgttaaccc 3780
 actctatgtc tctcctgcat gtaaaaaacc actaatccac atgtatgaa aggagtccac 3840
 ttctgagatc tgctgtggtt ctttgtgggg agtcaatttg ctgttgggaa cccgatctaa 3900
 tctatatctg atggacagaa gtggaaaggc tgacattact aaacttataa ggcaagacc 3960
 attccgccag attcaagtct tagagccact caatttgctg attaccatct caggtcataa 4020
 gaacagactt cgggtgtatc atctgacctg gttgaggaac aagattttga ataatgatcc 4080
 agaaagtaaa agaaggcaag aagaaatgct gaagacagag gaagcctgca aagctattga 4140
 taagttaaca ggctgtgaac acttcagtgt cctccaacat gaagaaaca catatattgc 4200
 aattgctttg aaatcatcaa ttcaccttta tgcatgggca ccaagtcct ttgatgaaag 4260
 cactgctatt aaagtatttc caacacttga tcataagcca gtgacagttg acctggctat 4320
 tggttctgaa aaaagactaa agattttctt cagctcagca gatggatatt acctcatcga 4380
 tgcagaatct gaggttatgt ctgatgtgac cctgccaaag aataatatca tcattttacc 4440
 tgattgcttg ggaattggca tgatgtctac cttcaatgct gaagccctct ctgtggaagc 4500
 aaatgaacaa ctcttcaaga agatccttga aatgtggaaa gacataccat cttctatagc 4560
 ttttgaatgt acacagcgaa ccacaggatg gggccaaaag gccattgaag tgcgctcttt 4620
 gcaatccagg gttctggaaa gtgagctgaa gcgcagggtca attaagaagc tgagattcct 4680
 gtgcacccgg ggtgacaagc tggtctttac ctctaccctg cgcaatcacc acagccgggt 4740
 ttacttcatg acacttggaa aacttgaaga gctccaaagc aattatgatg tctaaaagtt 4800
 tccagtgatt tattaccaca ttataaacat catgtatagg cagtctgcat ctt 4853

<210> 34

<211> 4845

<212> DNA

<213> Homo sapiens

<400> 34

acgggtgggag gtctatataa gcagagctgg tttagtgaac cgtcagatcc gctagcgcta 60

ccggactcag atctattttag gtgacactat agaagagcca agctgctcga gccgccacca	120
tgggatccgc gggacctggg ggctggaggg acagggaggt cacggatctg ggccacctgc	180
cggatccaac tggaatatc tcactagata aaaccattgg ccttggtact tatggcagaa	240
tctatttggg acttcatgag aagactggtg catttacagc tgttaaagt atgaacgctc	300
gtaagacccc ttacctgaa ataggaaggc gagtgaaggt gaataaatat caaaaatctg	360
ttgggtggag atacagtgat gaggaagagg atctcaggac tgaactcaac cttctgagga	420
agtactcttt ccacaaaaac attgtgtcct tctatggagc atttttcaag ctgagtcctc	480
ctggtcagcg gcaccaactt tggatggtga tggagttatg tgcagcaggt tcggtcactg	540
atgtagttag aatgaccagt aatcagagtt taaaagaaga ttggattgct tatactctgc	600
gagaaatcct tcagggtta gctcacctc acgcacaccg agtaattcac cgggacatca	660
aaggtcagaa tgtgctgctg actcataatg ctgaagtaa actggttgat tttggagtga	720
gtgcccaggt gagcagaact aatggaagaa ggaatagttt cattgggaca ccatactgga	780
tggcacctga ggtgattgac tgtgatgagg acccaagacg ctctatgat tacagaagt	840
atgtgtggtc tgtgggaatt actgccattg aaatggctga aggagcccct cctctgtgta	900
accttcaacc cttggaagct ctcttcgtta ttttgcggga atctgctccc acagtcaaat	960
ccagcggatg gtcccgtaa ttccacaatt tcatggaaaa gtgtacgata aaaaatttcc	1020
tgtttcgtcc tactttctgca aacatgcttc aacaccatt tgttcgggat ataaaaaatg	1080
aacgacatgt tgttgagtca ttaacaaggc atcttactgg aatcattaaa aaaagacaga	1140
aaaaaggaat acctttgatc tttgaaagag aagaagctat taaggaacag tacaccgtga	1200
gaagattcag aggacctct tgcactcacg agcttctgag attgccaacc agcagcagat	1260
gcagaccact tagagtcctg catggggaac cctctcagcc aagggtggcta cctgatcgag	1320
aagagccaca ggtccaggca cttcagcagc tacagggagc agccagggtta ttcatgccac	1380
tgcaggctct ggacagtga cctaagcctc taaaggggca ggctcaggca cctcaacgac	1440
tacaaggggc agctcgggtg ttcatgccac tacaggctca ggtgaaggct aaggcctcta	1500
aacctctaca aatgcagatt aaggcacctc cacgactacg gagggcagcc agggtgctca	1560
tgccactaca ggcacagggt agggcaccta ggcttctgca ggtacagtcc caggtatcca	1620
aaaagcagca ggcccagacc cagacatcag aaccacaaga tttggaccag gtaccagagg	1680
aatttcaggg tcaagatcag gtacccgaac aacaaaggca gggccaggcc cctgaacaac	1740
agcagaggca caaccagggt cctgaacaag agctggagca gaaccaggca cctgaacagc	1800
cagaggtaga ggaacaggct gccgagcctg cacaggcaga gactgaggca gaggaacctg	1860
agtcattacg agtaaagtcc caggatattc tgcccctgct atcacaagat caccatgtgc	1920

tgttgccact acatttggat actcaggtgc tcattccagt agaggggcaa actgaaggat	1980
cacctcaggc acaggcttgg acactagaac cccacaggc aattggctca gttcaagcac	2040
tgatagaggg actatcaaga gacttgcttc gggcaccaaa ctcaaataac tcaaagccac	2100
ttggtccgtt gcaaaccctg atggaaaatc tgtcatcaaa taggttttac tcacaaccag	2160
aacaggcacg ggagaaaaaa tcaaaagttt ctactctgag gcaagcactg gcaaaaagac	2220
tatcaccaaa gaggttcagg gcaaagtcac catggagacc tgaaaagctt gaactctcgg	2280
attdagaagc ccgcaggcaa aggcgccaac gcagatggga agatatcttt aatcagcatg	2340
aggaagaatt gagacaagtt gataaagaca aagaagatga atcatcagac aatgatgaag	2400
tatttcattc gattcaggct gaagtccaga tagagccatt gaagccatac atttcaaac	2460
ctaaaaaat tgaggttcaa gagagatctc cttctgtgcc taacaaccag gatcatgcac	2520
atcatgtcaa gttctcttca agcgttctc agcgttctct tttggaacaa gctcagaagc	2580
ccattgacat cagacaaagg agttcgcaaa atcgtcaaaa ttggctggca gcatcagaat	2640
cttcttctga ggaagaaagt cctgtgactg gaaggaggtc tcagtcatca ccaccttatt	2700
ctactattga tcagaagttg ctggttgaca tccatgttcc agatggattt aaagtaggaa	2760
aaatatcacc ccctgtatac ttgacaaacg aatgggtagg ctataatgca ctctctgaaa	2820
tcttccggaa tgattggta actccggcac ctgtcattca gccacctgaa gaggatgggtg	2880
attatgttga actctatgat gccagtgtg atactgatgg tgatgatgat gatgagtcta	2940
atgatacttt tgaagatacc tatgatcatg ccaatggcaa tgatgacttg gataaccagg	3000
ttgatcaggc taatgatgtt tgtaaagacc atgatgatga caacaataag tttgttgatg	3060
atgtaaataa taattattat gaggcgcta gttgtccaag ggcaagctat ggcagagatg	3120
gaagctgcaa gcaagatggg tatgatggaa gtcgtggaaa agaggaagcc tacagaggct	3180
atggaagcca tacagccaat agaagccatg gaggaagtc agccagtgag gacaatgcag	3240
ccattggaga tcaggaagaa catgcagcca atataggcag tgaaagaaga ggcagtgagg	3300
gtgatggagg taaggagtc gttcgaacca gtgaagagag tggagccctt ggactcaatg	3360
gagaagaaaa ttgctcagag acagatggtc caggattgaa gagacctgcg tctcaggact	3420
ttgaatatct acaggaggag ccagggtgtg gaaatgaggc ctcaaagcc attgactcag	3480
gtgctgcacc gtcagcacct gatcatgaga gtgacaataa ggacatatca gaatcatcaa	3540
cacaatcaga ttttctgcc aatcactcat ctcttccaa aggttctggg atgtctgctg	3600
atgctaactt tgccagtgc atcttatacg ctggattcgt agaagtacct gaggaatcac	3660
ctaagcaacc ctctgaagtc aatgttaacc cactctatgt ctctctgca tgtaaaaaac	3720
cactaatcca catgtatgaa aaggagttca cttctgagat ctgctgtggg tctttgtggg	3780

```

gagtcaattt gctgttggga acccgatcta atctatatct gatggacaga agtggaaagg 3840
ctgacattac taaacttata aggcgaagac cattccgcca gattcaagtc ttagagccac 3900
tcaatttgct gattaccatc tcaggtcata agaacagact tcgggtgtat catctgacct 3960
ggttgaggaa caagattttg aataatgata cagaaagtaa aagaaggcaa gaagaaatgc 4020
tgaagacaga ggaagcctgc aaagctattg ataagttaac aggctgtgaa cacttcagtg 4080
tcctccaaca tgaagaaaca acatatattg caattgcttt gaaatcatca attcaccttt 4140
atgcatgggc accaaagtcc tttgatgaaa gcaactgctat taaagtattt ccaacacttg 4200
atcataagcc agtgacagtt gacctggcta ttggttctga aaaaagacta aagattttct 4260
tcagctcagc agatggatat cacctcatcg atgcagaatc tgaggttatg tctgatgtga 4320
ccctgccaaa gaataatata atcattttac ctgattgctt gggaattggc atgatgctca 4380
ccttcaatgc tgaagccctc tctgtggaag caaatgaaca actcttcaag aagatccttg 4440
aaatgtggaa agacatacca tcttctatag cttttgaatg tacacagcga accacaggat 4500
ggggccaaaa ggccattgaa gtgcgctctt tgcaatccag ggttctggaa agtgagctga 4560
agcgcaggtc aattaagaag ctgagattcc tgtgcacccg gggtgacaag ctgttcttta 4620
cctctaccct gcgcaatcac cacagccggg ttacttcat gacacttgga aaacttgaag 4680
agctccaaag caattatgat gtcgaattcg gtacggcgca ctacaaggac gatgacgata 4740
agtgagcggc cgctcggcc aaacatcgat aaaataaaag attttattta gtctccagaa 4800
aaagggggga atgaaagacc ccacctgtag gtttggcaag ctage 4845

```

```

<210> 35
<211> 5445
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (376)..(376)
<223> n is a, c, g, or t

```

```

<220>
<221> misc_feature
<222> (378)..(378)
<223> n is a, c, g, or t

```

```

<400> 35
ccttctagct tcttctctc caggactgac gctcaggctc ctctctcgcc ttagcccaac 60
ttgctttccc gcctcgcaaa ctccggtttc cctccactcc caactctttt cactacacgt 120
ttcccctcct ctatctccca cgccacgaac cccgatcccc agactcctct ctcccgcctt 180
cctccttctt ctctcctccc ttcaactctt catccgcttc cacctcagac tctgcgcgca 240

```

cccaattcag tcgcccgtc ccgttcggct cctcgaagcc atggcgggac ctgggggctg	300
gagggacagg gaggtcacgg atctgggcca cctgccgat ccaactggaa tattctcact	360
agataaaacc attggnctg gtacttatgg cagaatctat ttgggacttc atgagaagac	420
tggtgcattt acagctgtta aagtgatgaa cgctcgtaag acccctttac ctgaaatagg	480
aaggcgagtg agagtgaata aatatcaaaa atctgttggg tggagataca gtgatgagga	540
agaggatctc aggactgaac tcaaccttct gaggaagtac tctttccaca aaaacattgt	600
gtccttctat ggagcatttt tcaagctgag tccccctggg cagcggcacc aactttggat	660
ggtgatggag ttatgtgcag caggttcggg cactgatgta gtgagaatga ccagtaatca	720
gagtttaaaa gaagattgga ttgcttatat ctgccgagaa atccttcagg gcttagctca	780
ccttcacgca caccgagtaa ttcaccgga catcaaaggc cagaatgtgc tgctgactca	840
taatgctgaa gtaaaactgg ttgattttgg agtgagtgcc caggtagca gaactaatgg	900
aagaaggaat agtttcattg ggacaccata ctggatggca cctgaggtga ttgactgtga	960
tgaggacca agacgtcct atgattacag aagtgatgtg tggctctgtg gaattactgc	1020
cattgaaatg gctgaaggag cccctcctct gtgtaacctt caacccttg aagctctctt	1080
cgttattttg cgggaatctg ctcccacagt caaatccagc ggatgggtccc gtaagttcca	1140
caatttcattg gaaaagtga cgataaaaaa tttcctgttt cgtcctactt ctgcaaacat	1200
gcttcaacac ccatttggtc gggatataaa aaatgaacga catgttggtg agtcattaac	1260
aaggcatctt actggaatca ttaaaaaaag acagaaaaaa ggaatacctt tgatctttga	1320
aagagaagaa gctattaagg aacagtacac cgtgagaaga ttcagaggac cctcttgac	1380
tcacgagctt ctgagattgc caaccagcag cagatgcaga ccacttagag tctgcatgg	1440
ggaaccctct cagccaaggt ggctacctga tcgagaagag ccacaggtcc aggcacttca	1500
gcagctacag ggagcagcca gggattcat gccactgcag gctctggaca gtgcacctaa	1560
gcctctaaag,gggcaggctc aggcacctca acgactacaa ggggcagctc ggggtgttc	1620
gccactacag gctcaggtga aggctaaggc ctctaaacct ctacaaatgc agattaaggc	1680
acctccacga ctacggaggg cagccagggt gctcatgcc aacaggcac aggttagggc	1740
acctaggctt ctgcaggtac agtcccagg atccaaaaag cagcaggccc agaccagac	1800
atcagaacca caagatttgg accaggtacc agaggaattt cagggtcaag atcaggtacc	1860
cgaacaacaa aggcagggcc agggccctga acaacagcag aggcacaacc aggtgcctga	1920
acaagagctg gagcagaacc aggcacctga acagccagag gtacaggaac aggctgccga	1980
gcctgcacag gcagagactg aggcagagga acctgagtc ttacgagtaa atgcccagg	2040
atttctgccc ctgctatcac aagatcacca tgtgctgttg ccactacatt tggataactca	2100

ggtgctcatt ccagtagagg ggcaaaactga aggatcacct caggcacagg cttggacact 2160
 agaacccccca caggcaattg gctcagttca agcactgata gagggactat caagagactt 2220
 gcttcgggca ccaaactcaa ataactcaaa gccacttggt ccgttgcaaa ccctgatgga 2280
 aaatctgtca tcaaataagg tttactcaca accagaacag gcacgggaga aaaaatcaaa 2340
 agtttctact ctgaggcaag cactggcaaa aagactatca ccaaagaggt tcagggcaaa 2400
 gtcacatgag agacctgaaa agcttgaact ctcggattta gaagcccgca ggcaaaggcg 2460
 ccaacgcaga tgggaagata tctttaatca gcatgaggaa gaattgagac aagttgataa 2520
 agacaaagaa gatgaatcat cagacaatga tgaagtattt cattcgattc aggctgaagt 2580
 ccagatagag ccattgaagc catacatttc aaatcctaaa aaaattgagg ttcaagagag 2640
 atctccttct gtgcctaaca accaggatca tgcacatcat gtcaagttct cttcaaggta 2700
 tgtcgttcct cagcgggtctc ttttgaaca agctcagaag cccattgaca tcagacaaag 2760
 gagttcgcaa aatcgtaaaa attggctggc agcatcagaa tcttcttctg aggaagaaa 2820
 tctgtgact ggaaggaggt ctcagtcac accaccttat tctactattg atcagaagtt 2880
 gctggttgac atccatgttc cagatggatt taaagtagga aaaatatcac cccctgtata 2940
 cttgacaaac gaatgggtag gctataatgc actctctgaa atcttccgga atgattggtt 3000
 aactccggca cctgtcattc agccacctga agaggatggt gattatgttg aactctatga 3060
 tgccagtgtc gatactgatg gtgatgatga tgatgagtct aatgatactt ttgaagatac 3120
 ctatgatcat gccaatggca atgatgactt ggataaccag gttgatcagg ctaatgatgt 3180
 ttgtaaagac catgatgatg acaacaataa gtttgttgat gatgtaaata ataattatta 3240
 tgaggcgctt agttgtccaa gggcaagcta tggcagagat ggaagctgca agcaagatgg 3300
 ttatgatgga agtcgtggaa aagaggaagc ctacagaggc tatggaagcc atacagccaa 3360
 tagaagccat ggaggaagtg cagccagtga ggacaatgca gccattggag atcaggaaga 3420
 acatgcagcc aatataggca gtgaaagaag aggcagtgag ggtgatggag gtaagggagt 3480
 cgttcgaacc agtgaagaga gtggagccct tggactcaat ggagaagaaa attgctcaga 3540
 gacagatggt ccaggattga agagacctgc gtctcaggac tttgaatatc tacaggagga 3600
 gccaggtggt ggaaatgagg cctcaaatgc cattgactca ggtgctgcac cgtcagcacc 3660
 tgatcatgag agtgacaata aggacatatc agaatcatca acacaatcag atttttctgc 3720
 caatcaactca tctccttcca aaggttctgg gatgtctgct gatgctaact ttgccagtgc 3780
 catcttatac gctggattcg tagaagtacc tgaggaatca cctaagcaac cctctgaagt 3840
 caatgttaac ccactctatg tctctctgc atgtaaaaaa ccactaatcc acatgtatga 3900
 aaaggagtgc acttctgaga tctgctgtgg ttctttgtgg ggagtcaatt tgctgttggg 3960


```

aaccgatct aatctatct tgatggacag aagtggaaag gctgacatta ctaaacttat 4020
aaggcgaaga ccattccgcc agattcaagt cttagagcca ctcaatttgc tgattaccat 4080
ctcaggatcat aagaacagac ttcgggtgta tcatctgacc tgggtgagga acaagatttt 4140
gaataatgat ccagaaagta aaagaaggca agaagaaatg ctgaagacag aggaagcctg 4200
caaagctatt gataagttaa caggctgtga acacttcagt gtctccaac atgaagaaac 4260
aacatatatt gcaattgctt tgaaatcatc aattcacctt tatgcatggg caccaaagtc 4320
ctttgatgaa agcactgcta ttaaagtatg cattgatcaa tcagcagact ctgaaggaga 4380
ctacatgtcc tatcaagcct atatacgaat actggcaaaa atacaggcag ctgatccagt 4440
gaaccgggtt aagagaccag atgagctcct tcatttgcgt aagctcaagg tatttccaac 4500
acttgatcat aagccagtga cagttgacct ggctattggt tctgaaaaaa gactaaagat 4560
tttcttcagc tcagcagatg gatcacct catcgatgca gaatctgagg ttatgtctga 4620
tgtgacctg ccaaagaatc ccctggaaat cattatacca cagaatatca tcattttacc 4680
tgattgcttg ggaattggca tgatgtcac cttcaatgct gaagccctct ctgtggaagc 4740
aaatgaacaa ctcttcaaga agatccttga aatgtggaaa gacataccat cttctatagc 4800
ttttgaatgt acacagcgaa ccacaggatg gggccaaaag gccattgaag tgcgctcttt 4860
gcaatccagg gttctggaaa gtgagctgaa ggcgaggtca attaagaagc tgagattcct 4920
gtgcacccgg ggtgacaagc tgttctttac ctctaccctg cgcaatcacc acagccgggt 4980
ttacttcatg acacttgga aacttgaaga gtcctaaagc aattatgatg tctaaaagtt 5040
tccagtgatt tattaccaca ttataaacat catgtatagg cagtctgcat cttcagattt 5100
cagagattaa atgagtattc agttttatct ttagtaaaga ttaaatacaa aactttactt 5160
ttaatgtagc acagaatagt ttaaatgaga aatgcagctt tatgtataaa attaactata 5220
gcaagctcta ggtactccaa tgggtgtacaa tgtcttttgc acaaactttg taacttttgt 5280
tactgtgaat tcaaacatta ctctttggac agtttggaca gtatctgtat tcagatttta 5340
caacatggag taaagaaacc tgttatgaat tagattacaa gcagccttca aaagaattgg 5400
cactgggata agatttttca ggaaaagaaa aacatcggca aacta 5445

```

```

<210> 36
<211> 1331
<212> PRT
<213> Homo sapiens

```

```

<400> 36

```

```

Met Ala Ser Asp Ser Pro Ala Arg Ser Leu Asp Glu Ile Asp Leu Ser
1      5      10      15

```

Ala Leu Arg Asp Pro Ala Gly Ile Phe Glu Leu Val Glu Leu Val Gly
20 25 30

Asn Gly Thr Tyr Gly Gln Val Tyr Lys Gly Arg His Val Lys Thr Gly
35 40 45

Gln Leu Ala Ala Ile Lys Val Met Asp Val Thr Gly Asp Glu Glu Glu
50 55 60

Glu Ile Lys Gln Glu Ile Asn Met Leu Lys Lys Tyr Ser His His Arg
65 70 75 80

Asn Ile Ala Thr Tyr Tyr Gly Ala Phe Ile Lys Lys Asn Pro Pro Gly
85 90 95

Met Asp Asp Gln Leu Trp Leu Val Met Glu Phe Cys Gly Ala Gly Ser
100 105 110

Val Thr Asp Leu Ile Lys Asn Thr Lys Gly Asn Thr Leu Lys Glu Glu
115 120 125

Trp Ile Ala Tyr Ile Cys Arg Glu Ile Leu Arg Gly Leu Ser His Leu
130 135 140

His Gln His Lys Val Ile His Arg Asp Ile Lys Gly Gln Asn Val Leu
145 150 155 160

Leu Thr Glu Asn Ala Glu Val Lys Leu Val Asp Phe Gly Val Ser Ala
165 170 175

Gln Leu Asp Arg Thr Val Gly Arg Arg Asn Thr Phe Ile Gly Thr Pro
180 185 190

Tyr Trp Met Ala Pro Glu Val Ile Ala Cys Asp Glu Asn Pro Asp Ala
195 200 205

Thr Tyr Asp Phe Lys Ser Asp Leu Trp Ser Leu Gly Ile Thr Ala Ile
210 215 220

Glu Met Ala Glu Gly Ala Pro Pro Leu Cys Asp Met His Pro Met Arg
225 230 235 240

Ala Leu Phe Leu Ile Pro Arg Asn Pro Ala Pro Arg Leu Lys Ser Lys
245 250 255

Lys Trp Ser Lys Lys Phe Gln Ser Phe Ile Glu Ser Cys Leu Val Lys
260 265 270

Asn His Ser Gln Arg Pro Ala Thr Glu Gln Leu Met Lys His Pro Phe
 275 280 285

Ile Arg Asp Gln Pro Asn Glu Arg Gln Val Arg Ile Gln Leu Lys Asp
 290 295 300

His Ile Asp Arg Thr Lys Lys Lys Arg Gly Glu Lys Asp Glu Thr Glu
 305 310 315 320

Tyr Glu Tyr Ser Gly Ser Glu Glu Glu Glu Glu Asn Asp Ser Gly
 325 330 335

Glu Pro Ser Ser Ile Leu Asn Leu Pro Gly Glu Ser Thr Leu Arg Arg
 340 345 350

Asp Phe Leu Arg Leu Gln Leu Ala Asn Lys Glu Arg Ser Glu Ala Leu
 355 360 365

Arg Arg Gln Gln Leu Glu Gln Gln Arg Glu Asn Glu Glu His Lys
 370 375 380

Arg Gln Leu Leu Ala Glu Arg Gln Lys Arg Ile Glu Glu Gln Lys Glu
 385 390 395 400

Gln Arg Arg Arg Leu Glu Glu Gln Gln Arg Arg Glu Lys Glu Leu Arg
 405 410 415

Lys Gln Gln Glu Arg Glu Gln Arg Arg His Tyr Glu Glu Gln Met Arg
 420 425 430

Arg Glu Glu Glu Arg Arg Arg Ala Glu His Glu Gln Glu Tyr Lys Arg
 435 440 445

Lys Gln Leu Glu Glu Gln Arg Gln Ala Glu Arg Leu Gln Arg Gln Leu
 450 455 460

Lys Gln Glu Arg Asp Tyr Leu Val Ser Leu Gln His Gln Arg Gln Glu
 465 470 475 480

Gln Arg Pro Val Glu Lys Lys Pro Leu Tyr His Tyr Lys Glu Gly Met
 485 490 495

Ser Pro Ser Glu Lys Pro Ala Trp Ala Lys Glu Val Glu Glu Arg Ser
 500 505 510

Arg Leu Asn Arg Gln Ser Ser Pro Ala Met Pro His Lys Val Ala Asn
 515 520 525

Arg Ile Ser Asp Pro Asn Leu Pro Pro Arg Ser Glu Ser Phe Ser Ile
 530 535 540

Ser Gly Val Gln Pro Ala Arg Thr Pro Pro Met Leu Arg Pro Val Asp
 545 550 555 560

Pro Gln Ile Pro His Leu Val Ala Val Lys Ser Gln Gly Pro Ala Leu
 565 570 575

Thr Ala Ser Gln Ser Val His Glu Gln Pro Thr Lys Gly Leu Ser Gly
 580 585 590

Phe Gln Glu Ala Leu Asn Val Thr Ser His Arg Val Glu Met Pro Arg
 595 600 605

Gln Asn Ser Asp Pro Thr Ser Glu Asn Pro Pro Leu Pro Thr Arg Ile
 610 615 620

Glu Lys Phe Asp Arg Ser Ser Trp Leu Arg Gln Glu Glu Asp Ile Pro
 625 630 635 640

Pro Lys Val Pro Gln Arg Thr Thr Ser Ile Ser Pro Ala Leu Ala Arg
 645 650 655

Lys Asn Ser Pro Gly Asn Gly Ser Ala Leu Gly Pro Arg Leu Gly Ser
 660 665 670

Gln Pro Ile Arg Ala Ser Asn Pro Asp Leu Arg Arg Thr Glu Pro Ile
 675 680 685

Leu Glu Ser Pro Leu Gln Arg Thr Ser Ser Gly Ser Ser Ser Ser Ser
 690 695 700

Ser Thr Pro Ser Ser Gln Pro Ser Ser Gln Gly Gly Ser Gln Pro Gly
 705 710 715 720

Ser Gln Ala Gly Ser Ser Glu Arg Thr Arg Val Arg Ala Asn Ser Lys
 725 730 735

Ser Glu Gly Ser Pro Val Leu Pro His Glu Pro Ala Lys Val Lys Pro
 740 745 750

Glu Glu Ser Arg Asp Ile Thr Arg Pro Ser Arg Pro Ala Ser Tyr Lys
 755 760 765

Lys Ala Ile Asp Glu Asp Leu Thr Ala Leu Ala Lys Glu Leu Arg Glu
 770 775 780

Leu Arg Ile Glu Glu Thr Asn Arg Pro Met Lys Lys Val Thr Asp Tyr
 785 790 795 800

Ser Ser Ser Ser Glu Glu Ser Glu Ser Ser Glu Glu Glu Glu Glu Asp
 805 810 815

Gly Glu Ser Glu Thr His Asp Gly Thr Val Ala Val Ser Asp Ile Pro
 820 825 830

Arg Leu Ile Pro Thr Gly Ala Pro Gly Ser Asn Glu Gln Tyr Asn Val
 835 840 845

Gly Met Val Gly Thr His Gly Leu Glu Thr Ser His Ala Asp Ser Phe
 850 855 860

Ser Gly Ser Ile Ser Arg Glu Gly Thr Leu Met Ile Arg Glu Thr Ser
 865 870 875 880

Gly Glu Lys Lys Arg Ser Gly His Ser Asp Ser Asn Gly Phe Ala Gly
 885 890 895

His Ile Asn Leu Pro Asp Leu Val Gln Gln Ser His Ser Pro Ala Gly
 900 905 910

Thr Pro Thr Glu Gly Leu Gly Arg Val Ser Thr His Ser Gln Glu Met
 915 920 925

Asp Ser Gly Thr Glu Tyr Gly Met Gly Ser Ser Thr Lys Ala Ser Phe
 930 935 940

Thr Pro Phe Val Asp Pro Arg Val Tyr Gln Thr Ser Pro Thr Asp Glu
 945 950 955 960

Asp Glu Glu Asp Glu Glu Ser Ser Ala Ala Ala Leu Phe Thr Ser Glu
 965 970 975

Leu Leu Arg Gln Glu Gln Ala Lys Leu Asn Glu Ala Arg Lys Ile Ser
 980 985 990

Val Val Asn Val Asn Pro Thr Asn Ile Arg Pro His Ser Asp Thr Pro
 995 1000 1005

Glu Ile Arg Lys Tyr Lys Lys	Arg Phe Asn Ser Glu	Ile Leu Cys
1010	1015	1020
Ala Ala Leu Trp Gly Val Asn	Leu Leu Val Gly Thr	Glu Asn Gly
1025	1030	1035
Leu Met Leu Leu Asp Arg Ser	Gly Gln Gly Lys Val	Tyr Asn Leu
1040	1045	1050
Ile Asn Arg Arg Arg Phe Gln	Gln Met Asp Val Leu	Glu Gly Leu
1055	1060	1065
Asn Val Leu Val Thr Ile Ser	Gly Lys Lys Asn Lys	Leu Arg Val
1070	1075	1080
Tyr Tyr Leu Ser Trp Leu Arg	Asn Arg Ile Leu His	Asn Asp Pro
1085	1090	1095
Glu Val Glu Lys Lys Gln Gly	Trp Ile Thr Val Gly	Asp Leu Glu
1100	1105	1110
Gly Cys Ile His Tyr Lys Val	Val Lys Tyr Glu Arg	Ile Lys Phe
1115	1120	1125
Leu Val Ile Ala Leu Lys Asn	Ala Val Glu Ile Tyr	Ala Trp Ala
1130	1135	1140
Pro Lys Pro Tyr His Lys Phe	Met Ala Phe Lys Ser	Phe Ala Asp
1145	1150	1155
Leu Gln His Lys Pro Leu Leu	Val Asp Leu Thr Val	Glu Glu Gly
1160	1165	1170
Gln Arg Leu Lys Val Ile Phe	Gly Ser His Thr Gly	Phe His Val
1175	1180	1185
Ile Asp Val Asp Ser Gly Asn	Ser Tyr Asp Ile Tyr	Ile Pro Ser
1190	1195	1200
His Ile Gln Gly Asn Ile Thr	Pro His Ala Ile Val	Ile Leu Pro
1205	1210	1215
Lys Thr Asp Gly Met Glu Met	Leu Val Cys Tyr Glu	Asp Glu Gly
1220	1225	1230
Val Tyr Val Asn Thr Tyr Gly	Arg Ile Thr Lys Asp	Val Val Leu
1235	1240	1245

Gln Trp Gly Glu Met Pro Thr Ser Val Ala Tyr Ile His Ser Asn
1250 1255 1260

Gln Ile Met Gly Trp Gly Glu Lys Ala Ile Glu Ile Arg Ser Val
1265 1270 1275

Glu Thr Gly His Leu Asp Gly Val Phe Met His Lys Arg Ala Gln
1280 1285 1290

Arg Leu Lys Phe Leu Cys Glu Arg Asn Asp Lys Val Phe Phe Ala
1295 1300 1305

Ser Val Arg Ser Gly Gly Ser Ser Gln Val Phe Phe Met Thr Leu
1310 1315 1320

Asn Arg Asn Ser Met Met Asn Trp
1325 1330

<210> 37
<211> 1166
<212> PRT
<213> Homo sapiens

<400> 37

Met Ala Asn Asp Ser Pro Ala Lys Ser Leu Val Asp Ile Asp Leu Ser
1 5 10 15

Ser Leu Arg Asp Pro Ala Gly Ile Phe Glu Leu Val Glu Val Val Gly
20 25 30

Asn Gly Thr Tyr Gly Gln Val Tyr Lys Gly Arg His Val Lys Thr Gly
35 40 45

Gln Leu Ala Ala Ile Lys Val Met Asp Val Thr Glu Asp Glu Glu Glu
50 55 60

Glu Ile Lys Leu Glu Ile Asn Met Leu Lys Lys Tyr Ser His His Arg
65 70 75 80

Asn Ile Ala Thr Tyr Tyr Gly Ala Phe Ile Lys Lys Ser Pro Pro Gly
85 90 95

His Asp Asp Gln Leu Trp Leu Val Met Glu Phe Cys Gly Ala Gly Ser
100 105 110

Ile Thr Asp Leu Val Lys Asn Thr Lys Gly Asn Thr Leu Lys Glu Asp

115	120	125
Trp Ile Ala Tyr Ile Ser Arg Glu Ile Leu Arg Gly Leu Ala His Leu 130 135 140		
His Ile His His Val Ile His Arg Asp Ile Lys Gly Gln Asn Val Leu 145 150 155 160		
Leu Thr Glu Asn Ala Glu Val Lys Leu Val Asp Phe Gly Val Ser Ala 165 170 175		
Gln Leu Asp Arg Thr Val Gly Arg Arg Asn Thr Phe Ile Gly Thr Pro 180 185 190		
Tyr Trp Met Ala Pro Glu Val Ile Ala Cys Asp Glu Asn Pro Asp Ala 195 200 205		
Thr Tyr Asp Tyr Arg Ser Asp Leu Trp Ser Cys Gly Ile Thr Ala Ile 210 215 220		
Glu Met Ala Glu Gly Ala Pro Pro Leu Cys Asp Met His Pro Met Arg 225 230 235 240		
Ala Leu Phe Leu Ile Pro Arg Asn Pro Pro Pro Arg Leu Lys Ser Lys 245 250 255		
Lys Trp Ser Lys Lys Phe Phe Ser Phe Ile Glu Gly Cys Leu Val Lys 260 265 270		
Asn Tyr Met Gln Arg Pro Ser Thr Glu Gln Leu Leu Lys His Pro Phe 275 280 285		
Ile Arg Asp Gln Pro Asn Glu Arg Gln Val Arg Ile Gln Leu Lys Asp 290 295 300		
His Ile Asp Arg Thr Arg Lys Lys Arg Gly Glu Lys Asp Glu Thr Glu 305 310 315 320		
Tyr Glu Tyr Ser Gly Ser Glu Glu Glu Glu Glu Glu Val Pro Glu Gln 325 330 335		
Glu Gly Glu Pro Ser Ser Ile Val Asn Val Pro Gly Glu Ser Thr Leu 340 345 350		
Arg Arg Asp Phe Leu Arg Leu Gln Gln Glu Asn Lys Glu Arg Ser Glu 355 360 365		

Ala Leu Arg Arg Gln Gln Leu Leu Gln Glu Gln Gln Leu Arg Glu Gln
 370 375 380

Glu Glu Tyr Lys Arg Gln Leu Leu Ala Glu Arg Gln Lys Arg Ile Glu
 385 390 395 400

Gln Gln Lys Glu Gln Arg Arg Arg Leu Glu Glu Gln Gln Arg Arg Glu
 405 410 415

Arg Glu Ala Arg Arg Gln Gln Glu Arg Glu Gln Arg Arg Arg Glu Gln
 420 425 430

Glu Glu Lys Arg Arg Leu Glu Glu Leu Glu Arg Arg Arg Lys Glu Glu
 435 440 445

Glu Glu Arg Arg Arg Ala Glu Glu Glu Lys Arg Arg Val Glu Arg Glu
 450 455 460

Gln Glu Tyr Ile Arg Arg Gln Leu Glu Glu Glu Gln Arg His Leu Glu
 465 470 475 480

Val Leu Gln Gln Gln Leu Leu Gln Glu Gln Ala Met Leu Leu His Asp
 485 490 495

His Arg Arg Pro His Pro Gln His Ser Gln Gln Pro Pro Pro Pro Gln
 500 505 510

Gln Glu Arg Ser Lys Pro Ser Phe His Ala Pro Glu Pro Lys Ala His
 515 520 525

Tyr Glu Pro Ala Asp Arg Ala Arg Glu Val Pro Val Arg Thr Thr Ser
 530 535 540

Arg Ser Pro Val Leu Ser Arg Arg Asp Ser Pro Leu Gln Gly Ser Gly
 545 550 555 560

Gln Gln Asn Ser Gln Ala Gly Gln Arg Asn Ser Thr Ser Ser Ile Glu
 565 570 575

Pro Arg Leu Leu Trp Glu Arg Val Glu Lys Leu Val Pro Arg Pro Gly
 580 585 590

Ser Gly Ser Ser Ser Gly Ser Ser Asn Ser Gly Ser Gln Pro Gly Ser
 595 600 605

His Pro Gly Ser Gln Ser Gly Ser Gly Glu Arg Phe Arg Val Arg Ser

610	615	620																	
Ser	Ser	Lys	Ser	Glu	Gly	Ser	Pro	Ser	Gln	Arg	Leu	Glu	Asn	Ala	Val				
625					630					635					640				
Lys	Lys	Pro	Glu	Asp	Lys	Lys	Glu	Val	Phe	Arg	Pro	Leu	Lys	Pro	Ala				
				645					650						655				
Gly	Glu	Val	Asp	Leu	Thr	Ala	Leu	Ala	Lys	Glu	Leu	Arg	Ala	Val	Glu				
			660					665						670					
Asp	Val	Arg	Pro	Pro	His	Lys	Val	Thr	Asp	Tyr	Ser	Ser	Ser	Ser	Glu				
		675					680						685						
Glu	Ser	Gly	Thr	Thr	Asp	Glu	Glu	Asp	Asp	Asp	Val	Glu	Gln	Glu	Gly				
	690					695					700								
Ala	Asp	Glu	Ser	Thr	Ser	Gly	Pro	Glu	Asp	Thr	Arg	Ala	Ala	Ser	Ser				
705					710					715					720				
Leu	Asn	Leu	Ser	Asn	Gly	Glu	Thr	Glu	Ser	Val	Lys	Thr	Met	Ile	Val				
				725					730					735					
His	Asp	Asp	Val	Glu	Ser	Glu	Pro	Ala	Met	Thr	Pro	Ser	Lys	Glu	Gly				
			740					745						750					
Thr	Leu	Ile	Val	Arg	Gln	Thr	Gln	Ser	Ala	Ser	Ser	Thr	Leu	Gln	Lys				
		755					760						765						
His	Lys	Ser	Ser	Ser	Ser	Phe	Thr	Pro	Phe	Ile	Asp	Pro	Arg	Leu	Leu				
	770					775					780								
Gln	Ile	Ser	Pro	Ser	Ser	Gly	Thr	Thr	Val	Thr	Ser	Val	Val	Gly	Phe				
785					790					795					800				
Ser	Cys	Asp	Gly	Met	Arg	Pro	Glu	Ala	Ile	Arg	Gln	Asp	Pro	Thr	Arg				
				805					810					815					
Lys	Gly	Ser	Val	Val	Asn	Val	Asn	Pro	Thr	Asn	Thr	Arg	Pro	Gln	Ser				
			820					825						830					
Asp	Thr	Pro	Glu	Ile	Arg	Lys	Tyr	Lys	Lys	Arg	Phe	Asn	Ser	Glu	Ile				
		835					840						845						
Leu	Cys	Ala	Ala	Leu	Trp	Gly	Val	Asn	Leu	Leu	Val	Gly	Thr	Glu	Ser				
	850					855						860							

Gly Leu Met Leu Leu Asp Arg Ser Gly Gln Gly Lys Val Tyr Pro Leu
865 870 875 880

Ile Asn Arg Arg Arg Phe Gln Gln Met Asp Val Leu Glu Gly Leu Asn
885 890 895

Val Leu Val Thr Ile Ser Gly Lys Lys Asp Lys Leu Arg Val Tyr Tyr
900 905 910

Leu Ser Trp Leu Arg Asn Lys Ile Leu His Asn Asp Pro Glu Val Glu
915 920 925

Lys Lys Gln Gly Trp Thr Thr Val Gly Asp Leu Glu Gly Cys Val His
930 935 940

Tyr Lys Val Val Lys Tyr Glu Arg Ile Lys Phe Leu Val Ile Ala Leu
945 950 955 960

Lys Ser Ser Val Glu Val Tyr Ala Trp Ala Pro Lys Pro Tyr His Lys
965 970 975

Phe Met Ala Phe Lys Ser Phe Gly Glu Leu Val His Lys Pro Leu Leu
980 985 990

Val Asp Leu Thr Val Glu Glu Gly Gln Arg Leu Lys Val Ile Tyr Gly
995 1000 1005

Ser Cys Ala Gly Phe His Ala Val Asp Val Asp Ser Gly Ser Val
1010 1015 1020

Tyr Asp Ile Tyr Leu Pro Thr His Val Arg Lys Asn Pro His Ser
1025 1030 1035

Met Ile Gln Cys Ser Ile Lys Pro His Ala Ile Ile Ile Leu Pro
1040 1045 1050

Asn Thr Asp Gly Met Glu Leu Leu Val Cys Tyr Glu Asp Glu Gly
1055 1060 1065

Val Tyr Val Asn Thr Tyr Gly Arg Ile Thr Lys Asp Val Val Leu
1070 1075 1080

Gln Trp Gly Glu Met Pro Thr Ser Val Ala Tyr Ile Arg Ser Asn
1085 1090 1095

Gln Thr Met Gly Trp Gly Glu Lys Ala Ile Glu Ile Arg Ser Val

1100 1105 1110
 Glu Thr Gly His Leu Asp Gly Val Phe Met His Lys Arg Ala Gln
 1115 1120 1125
 Arg Leu Lys Phe Leu Cys Glu Arg Asn Asp Lys Val Phe Phe Ala
 1130 1135 1140
 Ser Val Arg Ser Gly Gly Ser Ser Gln Val Tyr Phe Met Thr Leu
 1145 1150 1155
 Gly Arg Thr Ser Leu Leu Ser Trp
 1160 1165

 <210> 38
 <211> 1295
 <212> PRT
 <213> Homo sapiens

 <400> 38
 Met Gly Asp Pro Ala Pro Ala Arg Ser Leu Asp Asp Ile Asp Leu Ser
 1 5 10 15
 Ala Leu Arg Asp Pro Ala Gly Ile Phe Glu Leu Val Glu Val Val Gly
 20 25 30
 Asn Gly Thr Tyr Gly Gln Val Tyr Lys Gly Arg His Val Lys Thr Gly
 35 40 45
 Gln Leu Ala Ala Ile Lys Val Met Asp Val Thr Glu Asp Glu Glu Glu
 50 55 60
 Glu Ile Lys Gln Glu Ile Asn Met Leu Lys Lys Tyr Ser His His Arg
 65 70 75 80
 Asn Ile Ala Thr Tyr Tyr Gly Ala Phe Ile Lys Lys Ser Pro Pro Gly
 85 90 95
 Asn Asp Asp Gln Leu Trp Leu Val Met Glu Phe Cys Gly Ala Gly Ser
 100 105 110
 Val Thr Asp Leu Val Lys Asn Thr Lys Gly Asn Ala Leu Lys Glu Asp
 115 120 125
 Cys Ile Ala Tyr Ile Cys Arg Glu Ile Leu Arg Gly Leu Ala His Leu
 130 135 140

His Ala His Lys Val Ile His Arg Asp Ile Lys Gly Gln Asn Val Leu
145 150 155 160

Leu Thr Glu Asn Ala Glu Val Lys Leu Val Asp Phe Gly Val Ser Ala
165 170 175

Gln Leu Asp Arg Thr Val Gly Arg Arg Asn Thr Phe Ile Gly Thr Pro
180 185 190

Tyr Trp Met Ala Pro Glu Val Ile Ala Cys Asp Glu Asn Pro Asp Ala
195 200 205

Thr Tyr Asp Tyr Arg Ser Asp Ile Trp Ser Leu Gly Ile Thr Ala Ile
210 215 220

Glu Met Ala Glu Gly Ala Pro Pro Leu Cys Asp Met His Pro Met Arg
225 230 235 240

Ala Leu Phe Leu Ile Pro Arg Asn Pro Pro Pro Arg Leu Lys Ser Lys
245 250 255

Lys Trp Ser Lys Lys Phe Ile Asp Phe Ile Asp Thr Cys Leu Ile Lys
260 265 270

Thr Tyr Leu Ser Arg Pro Pro Thr Glu Gln Leu Leu Lys Phe Pro Phe
275 280 285

Ile Arg Asp Gln Pro Thr Glu Arg Gln Val Arg Ile Gln Leu Lys Asp
290 295 300

His Ile Asp Arg Ser Arg Lys Lys Arg Gly Glu Lys Glu Glu Thr Glu
305 310 315 320

Tyr Glu Tyr Ser Gly Ser Glu Glu Glu Asp Asp Ser His Gly Glu Glu
325 330 335

Gly Glu Pro Ser Ser Ile Met Asn Val Pro Gly Glu Ser Thr Leu Arg
340 345 350

Arg Glu Phe Leu Arg Leu Gln Gln Glu Asn Lys Ser Asn Ser Glu Ala
355 360 365

Leu Lys Gln Gln Gln Gln Leu Gln Gln Gln Gln Arg Asp Pro Glu
370 375 380

Ala His Ile Lys His Leu Leu His Gln Arg Gln Arg Arg Ile Glu Glu
385 390 395 400

Gln Lys Glu Glu Arg Arg Arg Val Glu Glu Gln Gln Arg Arg Glu Arg
405 410 415

Glu Gln Arg Lys Leu Gln Glu Lys Glu Gln Gln Arg Arg Leu Glu Asp
420 425 430

Met Gln Ala Leu Arg Arg Glu Glu Glu Arg Arg Gln Ala Glu Arg Glu
435 440 445

Gln Glu Tyr Lys Arg Lys Gln Leu Glu Glu Gln Arg Gln Ser Glu Arg
450 455 460

Leu Gln Arg Gln Leu Gln Gln Glu His Ala Tyr Leu Lys Ser Leu Gln
465 470 475 480

Gln Gln Gln Gln Gln Gln Gln Leu Gln Lys Gln Gln Gln Gln Gln Leu
485 490 495

Leu Pro Gly Asp Arg Lys Pro Leu Tyr His Tyr Gly Arg Gly Met Asn
500 505 510

Pro Ala Asp Lys Pro Ala Trp Ala Arg Glu Val Glu Glu Arg Thr Arg
515 520 525

Met Asn Lys Gln Gln Asn Ser Pro Leu Ala Lys Ser Lys Pro Gly Ser
530 535 540

Thr Gly Pro Glu Pro Pro Ile Pro Gln Ala Ser Pro Gly Pro Pro Gly
545 550 555 560

Pro Leu Ser Gln Thr Pro Pro Met Gln Arg Pro Val Glu Pro Gln Glu
565 570 575

Gly Pro His Lys Ser Leu Val Ala His Arg Val Pro Leu Lys Pro Tyr
580 585 590

Ala Ala Pro Val Pro Arg Ser Gln Ser Leu Gln Asp Gln Pro Thr Arg
595 600 605

Asn Leu Ala Ala Phe Pro Ala Ser His Asp Pro Asp Pro Ala Ile Pro
610 615 620

Ala Pro Thr Ala Thr Pro Ser Ala Arg Gly Ala Val Ile Arg Gln Asn
625 630 635 640

Ser Asp Pro Thr Ser Glu Gly Pro Gly Pro Ser Pro Asn Pro Pro Ala
645 650 655

Trp Val Arg Pro Asp Asn Glu Ala Pro Pro Lys Val Pro Gln Arg Thr
660 665 670

Ser Ser Ile Ala Thr Ala Leu Asn Thr Ser Gly Ala Gly Gly Ser Arg
675 680 685

Pro Ala Gln Ala Val Arg Ala Ser Asn Pro Asp Leu Arg Arg Ser Asp
690 695 700

Pro Gly Trp Glu Arg Ser Asp Ser Val Leu Pro Ala Ser His Gly His
705 710 715 720

Leu Pro Gln Ala Gly Ser Leu Glu Arg Asn Arg Val Gly Val Ser Ser
725 730 735

Lys Pro Asp Ser Ser Pro Val Leu Ser Pro Gly Asn Lys Ala Lys Pro
740 745 750

Asp Asp His Arg Ser Arg Pro Gly Arg Pro Ala Asp Phe Val Leu Leu
755 760 765

Lys Glu Arg Thr Leu Asp Glu Ala Pro Arg Pro Pro Lys Lys Ala Met
770 775 780

Asp Tyr Ser Ser Ser Ser Glu Glu Val Glu Ser Ser Glu Asp Asp Glu
785 790 795 800

Glu Glu Gly Glu Gly Gly Pro Ala Glu Gly Ser Arg Asp Thr Pro Gly
805 810 815

Gly Arg Ser Asp Gly Asp Thr Asp Ser Val Ser Thr Met Val Val His
820 825 830

Asp Val Glu Glu Ile Thr Gly Thr Gln Pro Pro Tyr Gly Gly Gly Thr
835 840 845

Met Val Val Gln Arg Thr Pro Glu Glu Glu Arg Asn Leu Leu His Ala
850 855 860

Asp Ser Asn Gly Tyr Thr Asn Leu Pro Asp Val Val Gln Pro Ser His
865 870 875 880

Ser Pro Thr Glu Asn Ser Lys Gly Gln Ser Pro Pro Ser Lys Asp Gly
885 890 895

Ser Gly Asp Tyr Gln Ser Arg Gly Leu Val Lys Ala Pro Gly Lys Ser
 900 905 910

Ser Phe Thr Met Phe Val Asp Leu Gly Ile Tyr Gln Pro Gly Gly Ser
 915 920 925

Gly Asp Ser Ile Pro Ile Thr Ala Leu Val Gly Gly Glu Gly Thr Arg
 930 935 940

Leu Asp Gln Leu Gln Tyr Asp Val Arg Lys Gly Ser Val Val Asn Val
 945 950 955 960

Asn Pro Thr Asn Thr Arg Ala His Ser Glu Thr Pro Glu Ile Arg Lys
 965 970 975

Tyr Lys Lys Arg Phe Asn Ser Glu Ile Leu Cys Ala Ala Leu Trp Gly
 980 985 990

Val Asn Leu Leu Val Gly Thr Glu Asn Gly Leu Met Leu Leu Asp Arg
 995 1000 1005

Ser Gly Gln Gly Lys Val Tyr Gly Leu Ile Gly Arg Arg Arg Phe
 1010 1015 1020

Gln Gln Met Asp Val Leu Glu Gly Leu Asn Leu Leu Ile Thr Ile
 1025 1030 1035

Ser Gly Lys Arg Asn Lys Leu Arg Val Tyr Tyr Leu Ser Trp Leu
 1040 1045 1050

Arg Asn Lys Ile Leu His Asn Asp Pro Glu Val Glu Lys Lys Gln
 1055 1060 1065

Gly Trp Thr Thr Val Gly Asp Met Glu Gly Cys Gly His Tyr Arg
 1070 1075 1080

Val Val Lys Tyr Glu Arg Ile Lys Phe Leu Val Ile Ala Leu Lys
 1085 1090 1095

Ser Ser Val Glu Val Tyr Ala Trp Ala Pro Lys Pro Tyr His Lys
 1100 1105 1110

Phe Met Ala Phe Lys Ser Phe Ala Asp Leu Pro His Arg Pro Leu
 1115 1120 1125

Leu Val Asp Leu Thr Val Glu Glu Gly Gln Arg Leu Lys Val Ile
 1130 1135 1140

Tyr Gly Ser Ser Ala Gly Phe His Ala Val Asp Val Asp Ser Gly
 1145 1150 1155

Asn Ser Tyr Asp Ile Tyr Ile Pro Val His Ile Gln Ser Gln Ile
 1160 1165 1170

Thr Pro His Ala Ile Ile Phe Leu Pro Asn Thr Asp Gly Met Glu
 1175 1180 1185

Met Leu Leu Cys Tyr Glu Asp Glu Gly Val Tyr Val Asn Thr Tyr
 1190 1195 1200

Gly Arg Ile Ile Lys Asp Val Val Leu Gln Trp Gly Glu Met Pro
 1205 1210 1215

Thr Ser Val Ala Tyr Ile Cys Ser Asn Gln Ile Met Gly Trp Gly
 1220 1225 1230

Glu Lys Ala Ile Glu Ile Arg Ser Val Glu Thr Gly His Leu Asp
 1235 1240 1245

Gly Val Phe Met His Lys Arg Ala Gln Arg Leu Lys Phe Leu Cys
 1250 1255 1260

Glu Arg Asn Asp Lys Val Phe Phe Ala Ser Val Arg Ser Gly Gly
 1265 1270 1275

Ser Ser Gln Val Tyr Phe Met Thr Leu Asn Arg Asn Cys Ile Met
 1280 1285 1290

Asn Trp
 1295

<210> 39
 <211> 1582
 <212> PRT
 <213> Homo sapiens

<400> 39

Met Ala Gly Pro Gly Gly Trp Arg Asp Arg Glu Val Thr Asp Leu Gly
 1 5 10 15

His Leu Pro Asp Pro Thr Gly Ile Phe Ser Leu Asp Lys Thr Ile Gly
 20 25 30

Leu Gly Thr Tyr Gly Arg Ile Tyr Leu Gly Leu His Glu Lys Thr Gly
 35 40 45

Ala Phe Thr Ala Val Lys Val Met Asn Ala Arg Lys Thr Pro Leu Pro
 50 55 60

Glu Ile Gly Arg Arg Val Arg Val Asn Lys Tyr Gln Lys Ser Val Gly
 65 70 75 80

Trp Arg Tyr Ser Asp Glu Glu Glu Asp Leu Arg Thr Glu Leu Asn Leu
 85 90 95

Leu Arg Lys Tyr Ser Phe His Lys Asn Ile Val Ser Phe Tyr Gly Ala
 100 105 110

Phe Phe Lys Leu Ser Pro Pro Gly Gln Arg His Gln Leu Trp Met Val
 115 120 125

Met Glu Leu Cys Ala Ala Gly Ser Val Thr Asp Val Val Arg Met Thr
 130 135 140

Ser Asn Gln Ser Leu Lys Glu Asp Trp Ile Ala Tyr Ile Cys Arg Glu
 145 150 155 160

Ile Leu Gln Gly Leu Ala His Leu His Ala His Arg Val Ile His Arg
 165 170 175

Asp Ile Lys Gly Gln Asn Val Leu Leu Thr His Asn Ala Glu Val Lys
 180 185 190

Leu Val Asp Phe Gly Val Ser Ala Gln Val Ser Arg Thr Asn Gly Arg
 195 200 205

Arg Asn Ser Phe Ile Gly Thr Pro Tyr Trp Met Ala Pro Glu Val Ile
 210 215 220

Asp Cys Asp Glu Asp Pro Arg Arg Ser Tyr Asp Tyr Arg Ser Asp Val
 225 230 235 240

Trp Ser Val Gly Ile Thr Ala Ile Glu Met Ala Glu Gly Ala Pro Pro
 245 250 255

Leu Cys Asn Leu Gln Pro Leu Glu Ala Leu Phe Val Ile Leu Arg Glu
 260 265 270

Ser Ala Pro Thr Val Lys Ser Ser Gly Trp Ser Arg Lys Phe His Asn

275	280	285
Phe Met Glu Lys Cys Thr Ile Lys Asn Phe Leu Phe Arg Pro Thr Ser 290 295 300		
Ala Asn Met Leu Gln His Pro Phe Val Arg Asp Ile Lys Asn Glu Arg 305 310 315 320		
His Val Val Glu Ser Leu Thr Arg His Leu Thr Gly Ile Ile Lys Lys 325 330 335		
Arg Gln Lys Lys Gly Ile Pro Leu Ile Phe Glu Arg Glu Glu Ala Ile 340 345 350		
Lys Glu Gln Tyr Thr Val Arg Arg Phe Arg Gly Pro Ser Cys Thr His 355 360 365		
Glu Leu Leu Arg Leu Pro Thr Ser Ser Arg Cys Arg Pro Leu Arg Val 370 375 380		
Leu His Gly Glu Pro Ser Gln Pro Arg Trp Leu Pro Asp Arg Glu Glu 385 390 395 400		
Pro Gln Val Gln Ala Leu Gln Gln Leu Gln Gly Ala Ala Arg Val Phe 405 410 415		
Met Pro Leu Gln Ala Leu Asp Ser Ala Pro Lys Pro Leu Lys Gly Gln 420 425 430		
Ala Gln Ala Pro Gln Arg Leu Gln Gly Ala Ala Arg Val Phe Met Pro 435 440 445		
Leu Gln Ala Gln Val Lys Ala Lys Ala Ser Lys Pro Leu Gln Met Gln 450 455 460		
Ile Lys Ala Pro Pro Arg Leu Arg Arg Ala Ala Arg Val Leu Met Pro 465 470 475 480		
Leu Gln Ala Gln Val Arg Ala Pro Arg Leu Leu Gln Val Gln Ser Gln 485 490 495		
Val Ser Lys Lys Gln Gln Ala Gln Thr Gln Thr Ser Glu Pro Gln Asp 500 505 510		
Leu Asp Gln Val Pro Glu Glu Phe Gln Gly Gln Asp Gln Val Pro Glu 515 520 525		

Gln Gln Arg Gln Gly Gln Ala Pro Glu Gln Gln Gln Arg His Asn Gln
 530 535 540

Val Pro Glu Gln Glu Leu Glu Gln Asn Gln Ala Pro Glu Gln Pro Glu
 545 550 555 560

Val Gln Glu Gln Ala Ala Glu Pro Ala Gln Ala Glu Thr Glu Ala Glu
 565 570 575

Glu Pro Glu Ser Leu Arg Val Asn Ala Gln Val Phe Leu Pro Leu Leu
 580 585 590

Ser Gln Asp His His Val Leu Leu Pro Leu His Leu Asp Thr Gln Val
 595 600 605

Leu Ile Pro Val Glu Gly Gln Thr Glu Gly Ser Pro Gln Ala Gln Ala
 610 615 620

Trp Thr Leu Glu Pro Pro Gln Ala Ile Gly Ser Val Gln Ala Leu Ile
 625 630 635 640

Glu Gly Leu Ser Arg Asp Leu Leu Arg Ala Pro Asn Ser Asn Asn Ser
 645 650 655

Lys Pro Leu Gly Pro Leu Gln Thr Leu Met Glu Asn Leu Ser Ser Asn
 660 665 670

Arg Phe Tyr Ser Gln Pro Glu Gln Ala Arg Glu Lys Lys Ser Lys Val
 675 680 685

Ser Thr Leu Arg Gln Ala Leu Ala Lys Arg Leu Ser Pro Lys Arg Phe
 690 695 700

Arg Ala Lys Ser Ser Trp Arg Pro Glu Lys Leu Glu Leu Ser Asp Leu
 705 710 715 720

Glu Ala Arg Arg Gln Arg Arg Gln Arg Arg Trp Glu Asp Ile Phe Asn
 725 730 735

Gln His Glu Glu Glu Leu Arg Gln Val Asp Lys Asp Lys Glu Asp Glu
 740 745 750

Ser Ser Asp Asn Asp Glu Val Phe His Ser Ile Gln Ala Glu Val Gln
 755 760 765

Ile Glu Pro Leu Lys Pro Tyr Ile Ser Asn Pro Lys Lys Ile Glu Val

97

Ala Asn Arg Ser His Gly Gly Ser Ala Ala Ser Glu Asp Asn Ala
 1025 1030 1035
 Ala Ile Gly Asp Gln Glu Glu His Ala Ala Asn Ile Gly Ser Glu
 1040 1045 1050
 Arg Arg Gly Ser Glu Gly Asp Gly Gly Lys Gly Val Val Arg Thr
 1055 1060 1065
 Ser Glu Glu Ser Gly Ala Leu Gly Leu Asn Gly Glu Glu Asn Cys
 1070 1075 1080
 Ser Glu Thr Asp Gly Pro Gly Leu Lys Arg Pro Ala Ser Gln Asp
 1085 1090 1095
 Phe Glu Tyr Leu Gln Glu Glu Pro Gly Gly Gly Asn Glu Ala Ser
 1100 1105 1110
 Asn Ala Ile Asp Ser Gly Ala Ala Pro Ser Ala Pro Asp His Glu
 1115 1120 1125
 Ser Asp Asn Lys Asp Ile Ser Glu Ser Ser Thr Gln Ser Asp Phe
 1130 1135 1140
 Ser Ala Asn His Ser Ser Pro Ser Lys Gly Ser Gly Met Ser Ala
 1145 1150 1155
 Asp Ala Asn Phe Ala Ser Ala Ile Leu Tyr Ala Gly Phe Val Glu
 1160 1165 1170
 Val Pro Glu Glu Ser Pro Lys Gln Pro Ser Glu Val Asn Val Asn
 1175 1180 1185
 Pro Leu Tyr Val Ser Pro Ala Cys Lys Lys Pro Leu Ile His Met
 1190 1195 1200
 Tyr Glu Lys Glu Phe Thr Ser Glu Ile Cys Cys Gly Ser Leu Trp
 1205 1210 1215
 Gly Val Asn Leu Leu Leu Gly Thr Arg Ser Asn Leu Tyr Leu Met
 1220 1225 1230
 Asp Arg Ser Gly Lys Ala Asp Ile Thr Lys Leu Ile Arg Arg Arg
 1235 1240 1245
 Pro Phe Arg Gln Ile Gln Val Leu Glu Pro Leu Asn Leu Leu Ile

1250	1255	1260
Thr Ile Ser Gly His Lys Asn Arg Leu Arg Val Tyr His Leu Thr		
1265	1270	1275
Trp Leu Arg Asn Lys Ile Leu Asn Asn Asp Pro Glu Ser Lys Arg		
1280	1285	1290
Arg Gln Glu Glu Met Leu Lys Thr Glu Glu Ala Cys Lys Ala Ile		
1295	1300	1305
Asp Lys Leu Thr Gly Cys Glu His Phe Ser Val Leu Gln His Glu		
1310	1315	1320
Glu Thr Thr Tyr Ile Ala Ile Ala Leu Lys Ser Ser Ile His Leu		
1325	1330	1335
Tyr Ala Trp Ala Pro Lys Ser Phe Asp Glu Ser Thr Ala Ile Lys		
1340	1345	1350
Val Cys Ile Asp Gln Ser Ala Asp Ser Glu Gly Asp Tyr Met Ser		
1355	1360	1365
Tyr Gln Ala Tyr Ile Arg Ile Leu Ala Lys Ile Gln Ala Ala Asp		
1370	1375	1380
Pro Val Asn Arg Phe Lys Arg Pro Asp Glu Leu Leu His Leu Leu		
1385	1390	1395
Lys Leu Lys Val Phe Pro Thr Leu Asp His Lys Pro Val Thr Val		
1400	1405	1410
Asp Leu Ala Ile Gly Ser Glu Lys Arg Leu Lys Ile Phe Phe Ser		
1415	1420	1425
Ser Ala Asp Gly Tyr His Leu Ile Asp Ala Glu Ser Glu Val Met		
1430	1435	1440
Ser Asp Val Thr Leu Pro Lys Asn Pro Leu Glu Ile Ile Ile Pro		
1445	1450	1455
Gln Asn Ile Ile Ile Leu Pro Asp Cys Leu Gly Ile Gly Met Met		
1460	1465	1470
Leu Thr Phe Asn Ala Glu Ala Leu Ser Val Glu Ala Asn Glu Gln		
1475	1480	1485

Leu Phe Lys Lys Ile Leu Glu Met Trp Lys Asp Ile Pro Ser Ser
 1490 1495 1500

Ile Ala Phe Glu Cys Thr Gln Arg Thr Thr Gly Trp Gly Gln Lys
 1505 1510 1515

Ala Ile Glu Val Arg Ser Leu Gln Ser Arg Val Leu Glu Ser Glu
 1520 1525 1530

Leu Lys Arg Arg Ser Ile Lys Lys Leu Arg Phe Leu Cys Thr Arg
 1535 1540 1545

Gly Asp Lys Leu Phe Phe Thr Ser Thr Leu Arg Asn His His Ser
 1550 1555 1560

Arg Val Tyr Phe Met Thr Leu Gly Lys Leu Glu Glu Leu Gln Ser
 1565 1570 1575

Asn Tyr Asp Val
 1580

<210> 40
 <211> 140
 <212> PRT
 <213> Homo sapiens

<400> 40

Met Ser Asp Val Thr Leu Pro Lys Asn Pro Leu Glu Ile Ile Ile Pro
 1 5 10 15

Gln Asn Ile Ile Ile Leu Pro Asp Cys Leu Gly Ile Gly Met Met Leu
 20 25 30

Thr Phe Asn Ala Glu Ala Leu Ser Val Glu Ala Asn Glu Gln Leu Phe
 35 40 45

Lys Lys Ile Leu Glu Met Trp Lys Asp Ile Pro Ser Ser Ile Ala Phe
 50 55 60

Glu Cys Thr Gln Arg Thr Thr Gly Trp Gly Gln Lys Ala Ile Glu Val
 65 70 75 80

Arg Ser Leu Gln Ser Arg Val Leu Glu Ser Glu Leu Lys Arg Arg Ser
 85 90 95

Ile Lys Lys Leu Arg Phe Leu Cys Thr Arg Gly Asp Lys Leu Phe Phe
 100 105 110

Thr Ser Thr Leu Arg Asn His His Ser Arg Val Tyr Phe Met Thr Leu
115 120 125

Gly Lys Leu Glu Glu Leu Gln Ser Asn Tyr Asp Val
130 135 140